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With his snow-knife Adjaruk, a Padleimiut Eskimo, cuts a block of hard snow to conceal his fox trap. These most southerly of the Caribou Eskimos live in the barren-grounds where there is some growth of stunted willow, spruce and larch.

Richard Harrington.

Rural
Direct

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Photograph by Malak

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The Padleimiuts

Story and photographs by RICHARD HARRINGTON



THE PEOPLE OF THE WILLOW THICKETS", they call themselves, this southernmost of the four tribes of Caribou Eskimos. And the name is justified, for they inhabit the Barren Lands of the North, west of Hudson Bay and south of Chesterfield Inlet. Most of them live in the neighbourhood of Eskimo Point and Padlei, the latter being 250 miles from Churchill.

The Padleimiuts have an age-old tradition of living off the caribou. Only rarely do they go to the shore of Hudson Bay to hunt seal and walrus. Fishing is a little-known art. When the caribou migrations take a different route, the Padleimiuts and their dogs face starvation.

I spent three months in the Padleimiut country, visiting their camps, travelling with them, enjoying their serene old-time customs. It was a season of hunger amongst them, for the caribou herds had swung east and west of the area; with stoic calmness, they accepted hunger without whining or complaint. If they could get credit at the trading post, it was a help; but their sub-

sistence depends almost wholly on the caribou — their mainstay for food, for clothing, and, in some instances, for housing.

With the Hudson's Bay Company post at Padlei as headquarters, I travelled by dog team and *komatik* (sled) out to various encampments of the Padleimiut Eskimos. It was strange to observe differences in the various settlements, and stranger still to note the wide variations in the same community. The stronger and more efficient Eskimo could find at least some game to keep alive his family and dogs. This meant a higher standard of living throughout, for the clothing was warmer, the willow twigs for fuel more easily obtained. Automatically such a hunter had a higher credit rating at the trading post.

Some of the old arts remain; others have been influenced by the coming of the white man. The stone *kudeli* filled with caribou fat or seal oil has given place to the more efficient, though more costly, primus stove which consumes kerosene. Rifles have entirely replaced the bow-and-arrow in this

Above:—Kumok, the author's guide, knew his location on these barren, snow-covered stretches despite the lack of landmarks; his dogs are gaunt with hunger.

locality. Tattoo lines pricked or traced under the skin are no longer to be seen. But there are still evidences of the ornate beading the women used on their garments, and the unusual shape of their clothing.

On the way to Padlei from Eskimo Point I travelled with Kumok, an excellent guide, fair hunter, and good companion though he spoke no English. The scenery was monotonous, featureless to me. But Kumok travelled without hesitation, despite the fact that his gaunt dogs were slow because of hunger.

On the way, we came upon the tiniest igloo I have ever seen. It was about the size of a dog-kennel, and less than a dot on the wasteland. Outside, a *komatik* was half-buried in the snow, and nearby was a single mangy starving dog, the sole survivor of a team of six.

Inside was a very small Eskimo woman with her baby. The tiny ante-room was strewn with bones and chewed bits of caribou skin. Tetuk was starving. After their matches were gone, she and her husband had finally brought themselves to eat a fox carcass, raw. We carried in biscuits and our thermos bottles of tea, but the little igloo was so small that I could not sit upright, and Kumok had to remain in the porch. When we went on our way, we left some tea, biscuits, matches and kerosene. Farther along we met the young husband, Annowtalik, plodding slowly along with his rifle and empty game bag.

The fourth day on our way to Padlei, the dogs had slowed down decidedly. We not only had to walk, but to push the sled as well. A layer of soft snow made pulling very hard for the under-nourished dogs. It was mild enough to keep us both wet with perspiration, though we had shoved back our hoods.

The country was nothing but undulating hills with willow brush sticking several inches through the snow, on which appeared the precise tracks of the ptarmigan. There was a beautiful serene sunset, the sky golden for a moment, then steel-grey the next. Over all was a great silence. I felt very contented as Kumok methodically built a snug igloo for the night.

Next day we came upon spruce trees, perhaps ten inches above the snow, and bearing a dozen cones. A dark long line low on the horizon eventually became a grove of stunted spruce and tamarack. The dogs moved slowly, though Kumok beat them. But they perked up at the smell of wood-smoke on the air. We paused only briefly at the log shack amongst the trees from which the young couple had come, and I planned to return later when I could.

As the darkness increased, so did our difficulties. But the dogs sensed that the end was near, and picked up a trail. Over a hill, a pin-point of light pricked through the darkness. Kumok had struck Padlei without the slightest error, which is something of a feat even for an Eskimo of that country.

An igloo at Eskimo Point; just inside the entrance, steps lead down to the communal dwelling room.





Left:—The Manager of Eskimo Point trading post and an apprentice clerk hang fox pelts on the line for sunning and airing.

Right:—Pipe-smoking among the Padleimiuts is not only a man's prerogative: while Kretsuyuyuk smokes a mixture of ground cranberry leaves in his homemade pipe (with soapstone bowl and willow stem), old Eegie also enjoys a few puffs, wearing her sun 'glasses' for greater comfort.



Down the hill went the dogs at a wild gallop, both of us hanging on to the sides of the sled, braking the speed with our outstretched legs. We sped across Kinga (Hill) Lake towards the light, and were soon shaking hands all round in the darkness, smiling. I went with Henry Voisey, the post manager, to the house. Kumok went off with Keegootituk, the native helper at the post. Padlei's third building was the Hudson's Bay Company store.

At Padlei I understood more fully the extremely serious results of the caribou's changed migrating movements. The people around the post had not got many caribou the previous year. By now, the situation was alarming. It was the beginning of a slow downward spiral, which nothing but the return of the caribou could change.

Dogs were dying everywhere of starvation. Those remaining were mere skin-and-bones, shivering with cold and listless. This meant that the Eskimos, who must always travel to obtain food and catch fur, could not move

An attractive kulitak at Eskimo Point; the placing on costumes of white fur strips from the caribou belly varies according to locality.

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around much. Lack of caribou involved wearing the same old garments, from which the hair had fallen out; as these did not keep out the cold, more coughing and more sickness resulted. Lack of fresh meat meant undernourishment. Babies died off and real hardship began for all. Long treks were made on foot in search of food, the hunter crawling at night between snowblocks to keep warm, not having the energy to build an igloo. With the dogs dead, there would be no pups next year, and travelling would again be restricted.

The Eskimo accepts the "no meat" situation with some fatalism, and with a wan smile. His endurance is incredible. No white man can ever fully understand, or even visualize, the endless physical effort he exerts daily.

More of the old ways remained around Padlei than at Eskimo Point. Across her forehead one of the women, Eegie, wore a brass band (beaten out of part of a discarded primus stove) with strings of beads

Like all children, the Eskimo youngsters thoroughly enjoy imitating their elders; but Ootook's little pipe is just a toy!





Hudson's Bay Company residence at Padlei, 125 miles northwest of Eskimo Point, N.W.T.

dangling at either side in front of her ears. It is probably a survival of the older style of wearing the hair wrapped around sticks and bound in bright colours. Eegie and other women wore ear-ornaments of bunches of beads tied through holes in their ears with a bit of shoelace. Her clothing was ornamented with beadwork patches appliquéd on the garments.

Mrs. Voisey had a beautiful beaded costume, made by the Eskimos of Repulse Bay to the north, very ornate and colourful. But for practical purposes she and her family wore the *artiggi* (tunic with fur turned inward, usually an indoor garment) and *kulitak* (outer parka, with fur turned outward) of caribou fur, as did the natives. The style was different from any I had seen previously. A tall narrow hood, like a gnome's, was worn by the women; sometimes this was used to carry a baby, though more often the child was inside the *artiggi* itself. The men wore wide-legged pants, cut off just below the knee, fur socks or duffles halfway up the thigh, and *kamiks*, low shoes with the fur turned inward. Most of their outer garments, the *kulitaks*, had squares of white caribou fur set into the back.

My guide, Kumok, went off hunting for a couple of weeks, during which time he found the odd caribou, enough to feed him and his dogs well, but with little left over for the return trip to Eskimo Point. In his absence, Keegootituk took me back along the trail to the encampment amongst the trees. He

built me a little snow house, and there I stayed for four days.

In this grove of spruce and tamarack was a single small log shack, its walls covered with caribou skin and the chinks stuffed with moss. A square hole in the roof let in almost no light. The floor was of black earth and soggy. Everything was grimy and black from it, and my furs soon picked up the dirt, too. It made the clothing considerably colder. The Eskimo is not adapted to a permanent dwelling, and it is quite unsuited to his habits, becoming filthy and odoriferous in short order. The igloo remains the ideal winter home, both for comfort and sanitation.

In this hut lived Adjaruk with his two wives, his seven (out of seventeen) children, and the young man, Annowtalik, whom we had met on the trail with his wife and baby. At length he had shot a caribou. With understandable zest, they attacked the carcass, gorged, and then suffered terrible pains in their distended abdomens. The last dog had died, and they had walked the forty miles back to this camp. The baby looked well, but both parents were haggard.

All the children in the encampment had pot bellies, which made their chests look more skinny. They never complained, however, but spent the days in playing with the babies, going for firewood, hauling in ice to melt for tea. Annowtalik manufactured a fiddle out of a bacon tin, some wood and different thicknesses of braided caribou sinew. He sawed away with an equally pri-

mitive bow, but managed to get a tune. Adjaruk did some string-games for me, though he was not expert. Representations of muskox, rabbit, tent, wolverine, snow-drift, flame were only a few. It was a strange sight in the light of a single guttering candle.

The women did a little sewing from time to time. One morning they decided to make bannock. A drippy-nosed youngster of five was given the job of mixing the flour and baking powder in a pot on the floor. Tetuk went on delousing her baby, and eating the salty little tidbits. We were eating the bannock — the child had put in too much baking powder — and drinking tea when the sound of bells was heard. It was Henry Voisey's team coming to fetch me.

From Padlei, I made a one-day excursion about six miles northwest to where a single family lived in a skin tent. Kedjek had gone out fishing, the sole subsistence of the family now. He used a willow frame and braided sinew for a line, jigging through six feet of ice. Only one fish had been caught. Kedjek, being extremely hungry, had eaten it raw on the spot, and brought home only the head, which he gave to his son. The women went on being hungry. By now he had only three mangy dogs left, but he had made a small *komatik* which his wife could drag.

Thirty-five miles to the northwest was a community of fifteen people, living in igloos. Three miles distant to the northeast were half a dozen people in caribou skin tents. Two or three miles south lived another seven or eight people in shacks. But the most interesting community was thirty-five miles southwest; here lived Pipkagnak, an excellent hunter, who would be a remarkable man in any race at any time.

Oolie, a Nueltin Lake native, had his snowhouse near South Henik Lake, as the maps call it, in the same community as Pipkagnak, and was my guide on this occasion. We jolted off on a sunny morning, and were presently joined by Ayook, a Padleimio who worked for a missionary at Padlei. Ayook carried nothing but a sleeping bag, and I realized only when he dipped heartily into my supplies that he was coming along as a self-invited guest. Ayook dug into my grub, ate and drank, and finished by furtively swallowing handfuls of dry flour. I concluded then that he was starving, and did not blame him for following his nose to a full grub-box.

All of Ayook's four dogs were weak and thin from not being fed for a long time. The next morning, one of them slipped out of the harness. He just stood and stared, then

Henry Voisey, H.B.C. post manager at Padlei, takes in frozen fox carcasses (the store is unheated) in trade with an Eskimo customer. Metal disks indicate the value of the fur. Usually frozen carcasses, rather than pelts, are turned in to the posts at Padlei and Eskimo Point, because the Eskimos have insufficient heat to thaw them out.





Above:—Little Eegie and her mother wear the bearded artiggis (made of skins with the fur turned inwards) which are now becoming rather scarce in their country. The beads are sewn on patches of stroud (a type of flannel) which are then appliquéd onto the soft leather.



Left:—Little Eegie rubs noses affectionately with her grandmother, old Eegie. The latter wears a brow band of brass, with beads at the back and sides.

flopped down. We could do nothing but leave him, for he could not move any more. Natives do not kill their dogs, nor eat them, because of tribal taboos. By noon, another of the dogs was wobbling drunkenly. Ayook picked it up, placed in on his sled and carried it for a while. One of Oolie's dogs gave up that afternoon. It was being dragged along in the traces, trotting groggily, stumbling, zigzagging. Oolie took the harness off, and the dog dropped in the trail. Soon he was just a dot in the drifting snow.

People often say that natives are hard on their dogs, but they are at least as hard on themselves. Starvation is a terrifying thing. There's nothing to see, really, nothing dramatic. A dog keels over. A native is found too weak to stir . . .

At length we reached the encampment on the shores of what the natives call Shanenuak ("crosswise to the wind") Lake. On the windswept lakeshore stood three tupiks and one igloo. There was extreme poverty in the latter. An ancient hag with sphinx-like pose and disposition sat there, rarely moving, except to spit toward the stove. But she and her aged husband, Serko, came to life at the sight of tobacco. The old man's hands shook as he filled the stone bowl of his willow pipe, and grunted "*Namakto*" (thank you).

Oolie's home was a low damp place, full of biting smoke from the fire of willow twigs in the little stove. The skins were damp, the place disordered and dark, even dirty. Pipkaknak's camp, which stood next, was the exact opposite.

It was spacious, about sixteen by twenty feet, roughly oval, and about seven feet high. It had snow walls, and the roof of caribou skins sewn together was held in place with cross-pieces of thin peeled tamarack sticks. Four ice windows, one foot by two feet, made the place quite bright. A small stove, about the size of an orange crate, threw a very gentle heat. Wood had to be hauled from several miles away. And here again, the character of the man made the difference.

Pipkaknak, Oolie, his brother Karyook, and old Serko all went off to gather wood one day while I was there. The first three



Kookeeyuk, the aged and influential medicine man (angaruk) at Padlei, with his hollow-cheeked wife, Alareak.

An old hunter at Padlei using a bow-drill to bore holes in a piece of wood; he is making a cross-bar for his komatic.





Above:—Alareak hauls a load of willow brush home on her shoulders to keep the little stove in her tupik alight.

Below, left:—Yarrak appears well satisfied with the load of willow brush she has gathered. Strings of beads are tied to the lobes of her ears with a babiche or shoe-lace.



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had dog teams; Serko hauled his sled himself. He brought in a few willow branches. Oolie and Karyook came back with only a few skinny sticks and some willows wrapped in canvas. Pipkaknak had two twelve-foot logs, each eight inches in diameter, and a load of smaller stuff. Even so, he reached home first. It seemed typical of the difference in their abilities and initiative.

In hunting, too, Pipkaknak seemed a better man than his neighbours. He managed to obtain enough caribou to live moderately well. A certain order and cleanliness prevailed in his home, and his few commands were respected. There was even an unusual show of affection between him and his wife Padluk, sometimes also toward his children.

Unstudied obedience, unhampered freedom, the absence of all rules regarding the routine of eating, playing, sleeping — these are characteristics of Eskimo children's upbringing, and something to impress a child psychologist. There was no cajoling, ordering or wheedling. Pipkaknak's few commands, spoken softly, got prompt response from his children. There were no voluble explanations about minor items, nor arguing

that someone else should do the chores.

It was charming to watch the Eskimo children play amongst themselves. They might be rough at times, but there was no viciousness, no screaming, no quarrelling. They were never cautioned against doing this or that, rarely corrected, never struck.

Pipkaknak had a natural dignity. He was a pagan, "not yet ready for religion", according to the missionaries. In the same way, he had chosen carefully what other items of the white man's civilization would be useful to him. Needles, rifle, traps, axe, stove, saw, candles and snowknife were suited to his life, and these he had. He wore nothing of the white man's clothing, except a fancy belt he had got in trade from another trapper. His life was adjusted to the country, his economy and mode of life unvarying. In his home there was peace, contentment and smiles, never the least fret or worry.

Pipkaknak was not aware that his country was a barren waste of ice and snow, inhospitable, unfriendly and severe, with all the other unpleasant qualities the white man attributes to it. To him, it was home. His eyes could detect minute changes in the

Right:—In Adjaruk's log shack his son, Annowtalik, plays on a fiddle made from a bacon tin and braided sinew; both he and his wife, Tetuk, beside him, narrowly escaped death from starvation.

Left:—Adjaruk's little daughter, in tall hooded kulitak, plays with one of the puppies.





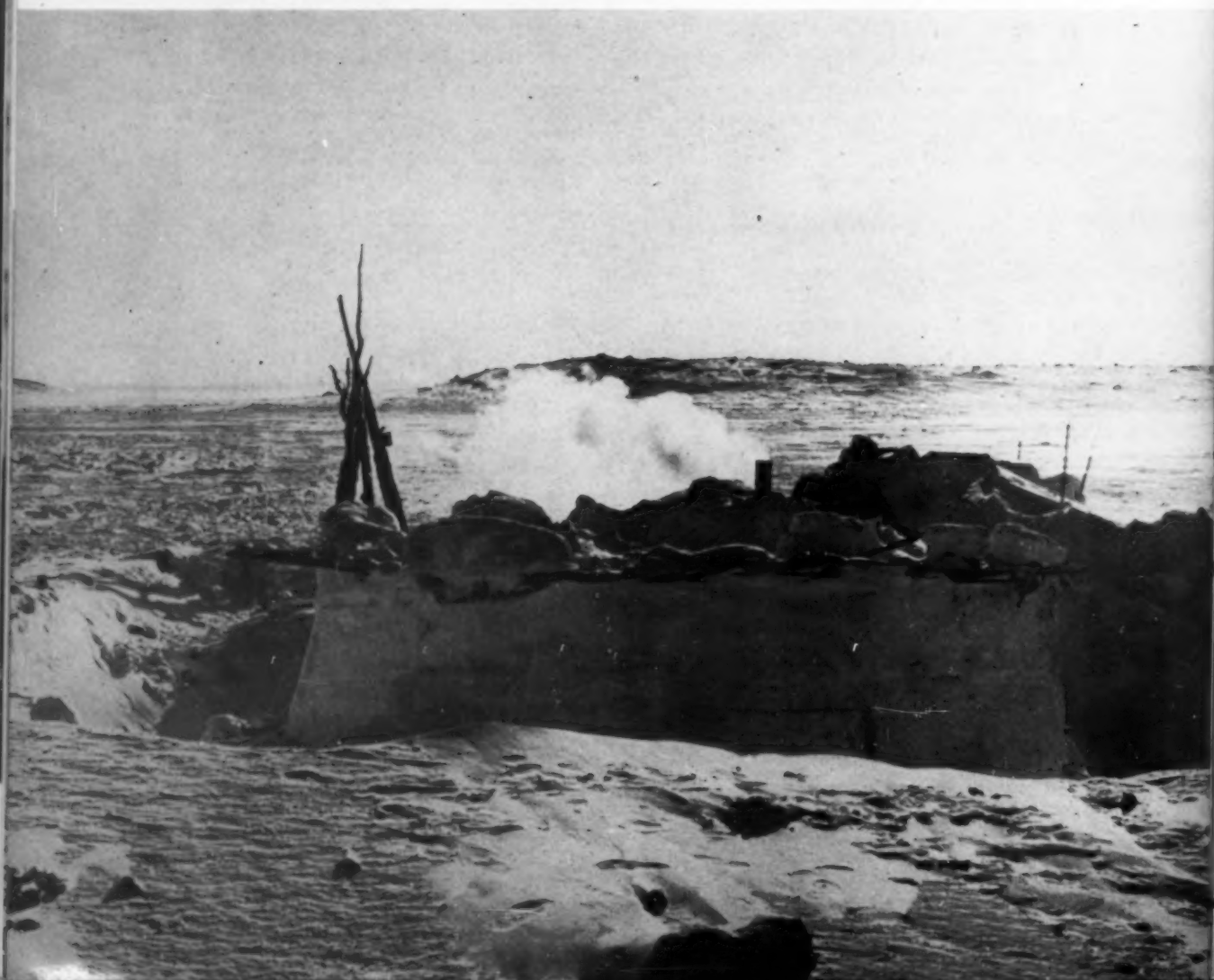
landscape, and he could find his way for hundreds of miles across what seemed blank emptiness to me.

One night at his camp we had three candles burning. The men spoke infrequently in low guttural tones, not looking directly at one another. The candles threw mysterious shadows into their faces, and it struck me again as often before: "A courageous artist would find no end of fascinating material amongst these people. And what themes there are in the Arctic for the composer!"

Under normal circumstances, Pipkarnak required a caribou per day for his family and seven dogs. But he got only ninety through-

Left—In the little tunnel at the foot of the steps leading down into Pipkarnak's house an Eskimo woman crouches, peering out.

Below:—Exterior of Pipkarnak's home on the shores of a wind-swept lake; made chiefly of ice and snow, his house is larger, cleaner and brighter than those of most of his neighbours.



out the past season, just enough to scrape by with until the next migration. Even so energetic a hunter must go hungry when the caribou herds change their ways, or are frightened from their ancient migration routes. But an able trapper such as Pipkakkak could get a little assistance from the Hudson's Bay Company, free, in the form of tea, tobacco and ammunition.

A round-trip of his trapline covered sixty or seventy miles. He had about fifty traps set out, and went over the line whenever it occurred to him. Fox, mostly white, a very few mink and wolverine, are the only means by which the trapper can buy the trader's

Right:—Oolie's wife and her partly-white children—shy, playful and extremely well-behaved youngsters.

Below:—Oolie has built a protecting shelter of snow blocks before settling down to fishing through the ice for Arctic char, using braided caribou sinew attached to a willow frame.





Pipkaknak's wife does complicated string games with her fingers while her young daughter looks on. The plastic disks worn by both are government-issue, bearing serial numbers.

goods. In some localities, such as Padlei, he can sell caribou skins as well.

In most cases around Padlei and Eskimo Point, frozen fox carcasses are turned in to the trader, because of insufficient heat in the homes to thaw them out for pelting. Padluk, however, thawed out the carcasses and skinned them, thereby earning a few cents more on each pelt. Pipkaknak accompanied us back to Padlei, taking with him eight fox pelts and four caribou hides.

The difference in the dog teams was very noticeable. Pipkaknak's dogs, well-fed and rested, dashed along through the snow, catching up with Oolie's less energetic team. They carried their tails curled high over their backs and needed no urging. Their feet pattered over the hard snow, and they were actually happy to be pulling the sled.

At Padlei, Kumok was waiting to take me back to Eskimo Point, and after a few days we set out. We had planned to go northwest to Tavanni, but in a ground-storm Kumok became uncertain of the way, then fearful

that food for the dogs would not last. We were by this time feeding them on tinned meat from the trader's shelves. We turned southward, and after several days of hard travel came upon an Eskimo encampment. Perhaps it was spontaneous, perhaps in Kumok's honour, but that evening there was a drum dance.

One of the men in camp, Ahkpa, found the frame of a drum, stretched a caribou skin over it, tightened it with sinew around the willow frame, and then apparently lost interest in the whole thing. But later on, in the evening, all the women came and sat side by side on the snowbench. At length Ahkpa struck the frame of the drum slowly, revolving it round and round. The women then took up a monotonous chant which eventually gathered volume, though the tempo never became faster. The drummer stamped in a small circle, swaying his body, shouting from time to time.

My two candles gave a fitting light. One woman became rigid, looking straight ahead,

chanting. Her baby's head poked out of the hood and it snored contentedly. An old woman's cracking voice came shrilly, her eyes closed. The others were equally absorbed. The singers' breath was visible in little puffs of steam. The two younger women, who were shy at first, became louder in their chant.

The drummer perspired but was urged on, and his breath came in gasps. Then someone else took the drum, and the chant continued. The drummer bent at the hips, striking only the willow frame until the large flat drum flipped back and forth just above the floor. As he hopped in a small circle, his whole face soon became beaded with perspiration, for drumming requires great strength in the forearms. One drummer had a tiny religious medal bouncing wildly on his neck as he danced.

In the midst of that great wasteland, in the absolutely silent night, only here, in a pin-point (relatively), twelve feet in diameter, were a dozen people crowded together, chanting they knew not really what. I thought of this violent land, and of these brief moments during which I was permitted

to sit in the shadows amidst its inhabitants as a privileged onlooker.

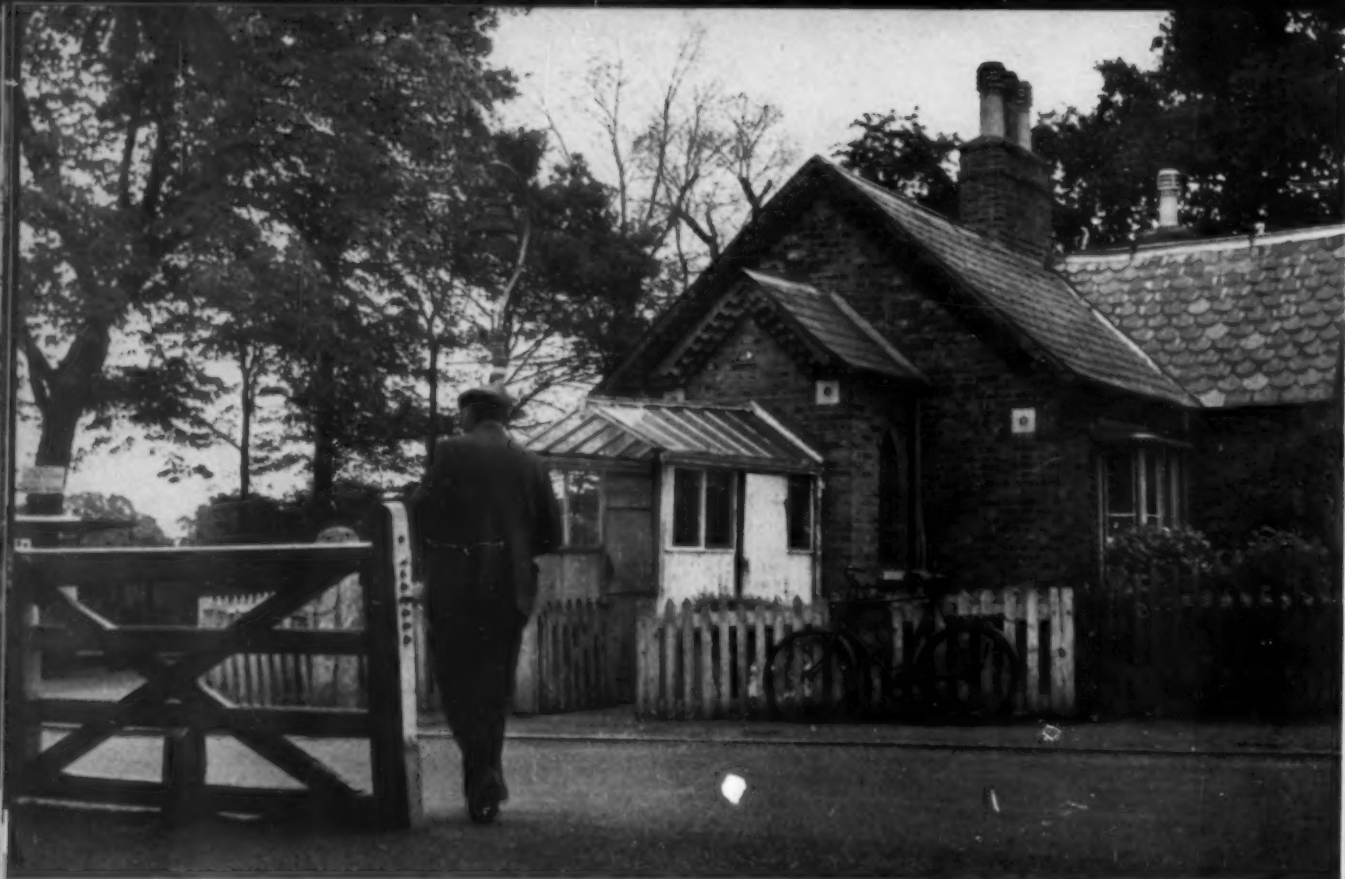
For all is changing. The ancient culture of the Eskimos is yielding to the insistence of missionaries and the rulings of governments.

Since the casual trading of children between families makes the administration of Family Allowance difficult, Ottawa has now ruled "no more adoptions". Formerly the Eskimos existed quite contentedly, never knowing their ages, nor caring — just living on from beginning to end. Natives frequently changed their names, or had three or four of them. Now a long record is kept of everyone — including dates of birth, marriage and death. Each has a numbered plastic disk, which he or she wears like a charm. Leaving behind of the unfit, infanticide, polygamy, polyandry and wife-exchanging (all partly economic adjustments) have been denounced.

But quietly these people still lead their lives, not forming committees for recognition of minorities, not unionized, nor wanting to run the country — happily ignorant of the vast machinery of administration which deals with their affairs in Ottawa.

Ahkpa beats a drum for the dancers; made of caribou skin stretched tightly over a willow frame, it is held by a handle (very tiring to the wrist) while the framework is struck by a drumstick.





Above:—There is still one toll gate left in London—at Dulwich; here toll has to be paid by the drivers of all vehicles before they can continue on their journey.

Below:—A pastoral scene in the very heart of London. These are Scottish sheep, brought south to save the considerable expense of mowing Hyde Park's many acres of grass.



Rural London

by E. O. HOPPÉ

Photographs by the author

WHEN WE THINK OF LONDON the name suggests a city unlike other cities, one invested with a particular individuality, even though it has been described as an "unprecedented conglomeration". It would be difficult to say exactly what it is that makes up its extraordinary charm, but undoubtedly one contributory cause is its mingled effect of village and city, of rural calm side by side with noisy congested streets.

Every big city has its green oases, its spots of flower-splashed colour in parks and gardens; and London, perhaps more than any other, has public enclosures abounding in wild life, in squirrels and birds so much tamer



Many retired grandfathers bring along their small grandsons on a fine summer afternoon as an excuse for sailing model boats on Kensington's famed "Round Pond"; and even after his young charge has lost interest and wandered away, the zealous sailor shown above is loathe to abandon so pleasant a sport. Meanwhile, on a well-kept green in adjacent Hyde Park, a trio of 'landlubbers' (below) enjoys a nice, quiet game of lawn-bowling.





This well-preserved windmill (in Brixton London), has belonged to, and been used by, the same family of millers for two centuries.

and more friendly than their little relations in the country that they will eat out of one's hands.

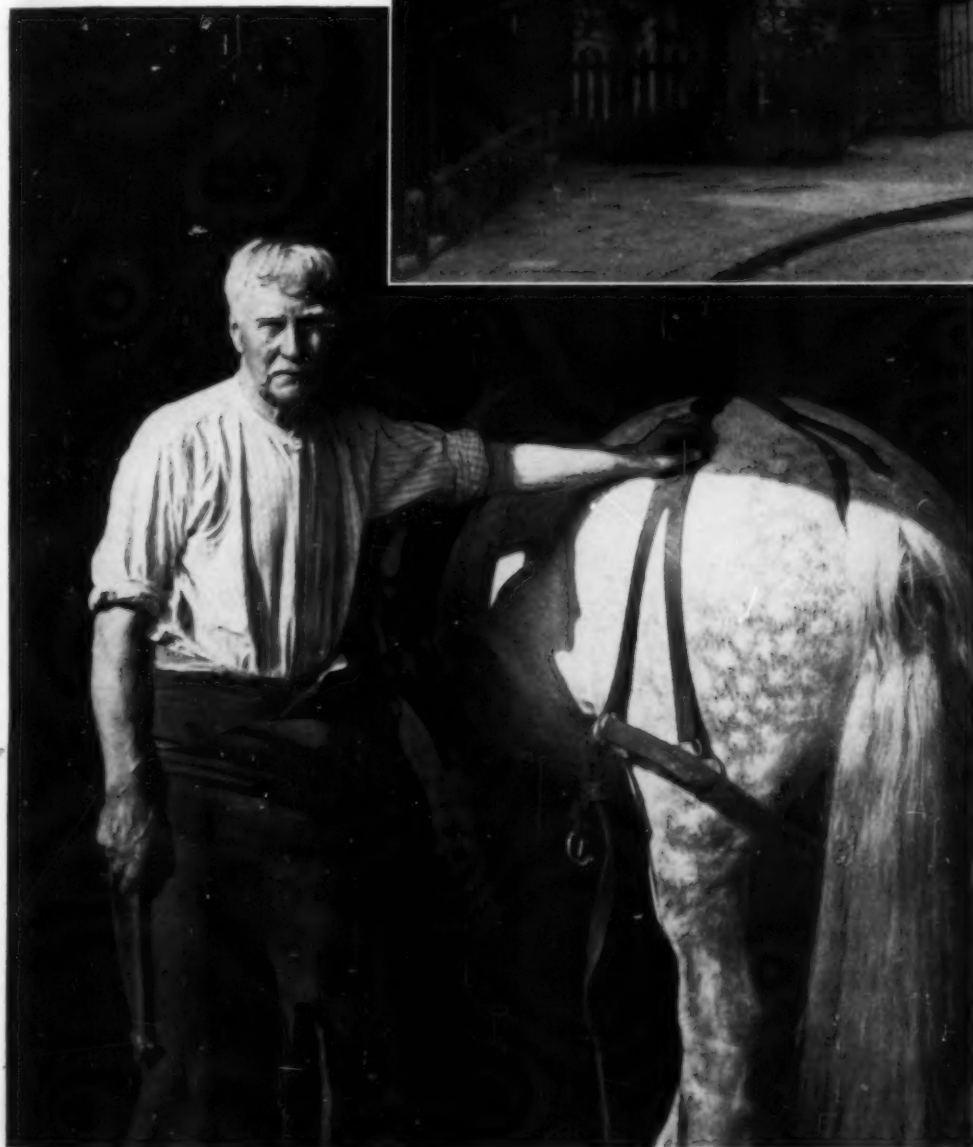
Its four hundred squares alone, set like backwaters in the surging river of main-street traffic, make an appreciable green pattern in the vast mosaic of bricks and mortar. And in dozens of places may be seen old-world houses, solid and urban, standing on four sides of a square round their communal garden, with an air of aloofness, reminiscent of the tranquillity of a cathedral close; the dull rumble of passing vehicles, close at hand but out of sight, is a hypnotic murmur lulling the senses into forgetfulness of the turmoil of city life.

Delightful as these squares may be, they are not so surprising as the unexpected bits of village life that have clung to the skirts of London while that venerable lady has ambled on her way through the years of her existence. There are little cottages, creeper-clad, set in gardens that would grace a model village, to be found in Chelsea, Kensington, Mayfair and Belgravia. Converted "mews" (a name-survival from the days of falconry) still retain their air of rural freshness and are gay with flowered balconies although their interiors may be fashioned according to the latest dictates of modern art.

In the oldest parts of the City proper there are brave and bright little garden-plots, as well as bomb-sites overgrown with multi-coloured weeds; and even in the prosaic quarters of East London may still be found the enclosed remnants of a village green with low-roofed shops and tiny houses surrounding it, flanked by row upon row of dull brick factories.

Behind the imposing shops of commercial houses hide shy places shrinking from the rush and hurry of modern life and fearful lest someone should expose their secret. All the charm of lace and lavender, crinoline and ringlets hovers about them; one can almost hear the faint tinkle of the spinet floating across sweet-scented patches filled with old-fashioned flowers and aromatic herbs; and your search would not be unrewarded if you wished to find a genuine village-pump.

Right:—Most Londoners are familiar with King's Road in Chelsea, traditional haunt of writers and artists. But how many know this lovely old 'country' cottage, which stands less than a hundred feet from that busy thoroughfare?



Left:—W. J. Surridge, who comes from a family of farriers and coachmen, has been a blacksmith for sixty years. Before he settled down in his smithy near the Elephant and Castle in Southeast London he shod horses and prescribed for their ailments in the Edgware Road and in Paris, where he was a well-known figure in and about the racing stables.



Above:—What artist could resist the rustic charms of this peaceful 'village' scene in London's Chiswick area?

Left:—The Mall, Hammer-smith. The trees that shade it were planted by Henrietta, and the queen and ladies of Charles II's court all had summer residences nearby. The Mall upheld its reputation as a fashionable place of residence well into the nineteenth century, and its picturesque houses facing the Thames are associated with names famous in literature and art.



Above:—Thatched roofs are becoming all too rare today, even in England's countryside; so that tourists are doubly surprised and delighted when they come upon this fine example within London itself—in well-treed surroundings at Camberwell.

Right:—Even less than a thatched house do visitors to London expect to find an ancient Elizabethan barn; yet a trip to Incham will enable them to see one—authentic, albeit somewhat draughty.





Cartier's little fleet, Grande Hermine, Petite Hermine and Emerillon, in the St. Lawrence on his second voyage to the New World in 1535. Leaving the larger ships near Quebec, Cartier continued up the St. Lawrence in the Emerillon, eventually making his way to Hochelaga on the island of Montreal.

Ways About Quebec

by R. B. THOMAS and A. CLEGG

ON HIS SECOND VISIT to the New World in 1535, Jacques Cartier sailed up the River of Canada as far as Hochelaga, an Indian village on the site of the present city of Montreal. It is recorded that the friendly natives conducted Cartier to the summit of Mount Royal and he wrote in his journal of the view: "As goodly a country as possibly can with eye be seen."

From this vantage point, 700 feet above the river, he could see to the south and east the broad lowlands of the St. Lawrence Valley, broken in an uneven pattern by lonely hills. Beyond, to the southeast, he could discern the outliers of the Appalachian Mountains, and to the southwest the white

waters where the St. Lawrence raced through the rapids of Lachine and Cedars. Turning to the north the flat plain stretched out for miles westward up the valley of the Ottawa and far to the north a line of hills marked the beginning of the Canadian Shield. To the northeast the mighty St. Lawrence River flowed to the sea that he had crossed.

Four centuries after this historic visit the observer on Mount Royal can see the same majestic view and also some things beyond Cartier's ken: ship after ship passing on the great river, seaway to the heart of the continent; railway lines and roads following the valley of the St. Lawrence River and the Ottawa River to bring the lumber of British

Columbia, the wheat of the prairies and the manufactures of southern Ontario to the metropolis of present-day Montreal. Through channels defined by the Laurentian hills, the Appalachian ridges and the St. Lawrence, the traffic of half a continent is funnelled to and from the markets of the world by means of transportation that would have been incomprehensible to the great sea captain of 1535 and his brave companions.

Here, in the Province of Quebec, is a territory part inland, part maritime, where the effects of the physiographical forms on regional economic development can be studied to great advantage. Quebec, with an area of nearly 600,000 square miles, represents almost one-sixth of the whole of Canada, and consists of three general physiographic divisions—the Canadian Shield (or Laurentian Plateau), the Appalachian Highlands, and the fertile St. Lawrence Lowlands.

The first named of these, the immense Canadian Shield, occupies about ninety per cent of the province, accounting for almost the whole area north and west of the St. Lawrence River. It has an average elevation of 1,500 feet and its rugged, rolling surface is laced with thousands of lakes and numerous rivers. The rivers of the plateau draining

into the St. Lawrence basin are, with the exception of the Saguenay, turbulent streams dotted with rapids and falls. Until recent times they have successfully repelled any attempts to utilize them as transportation arteries.

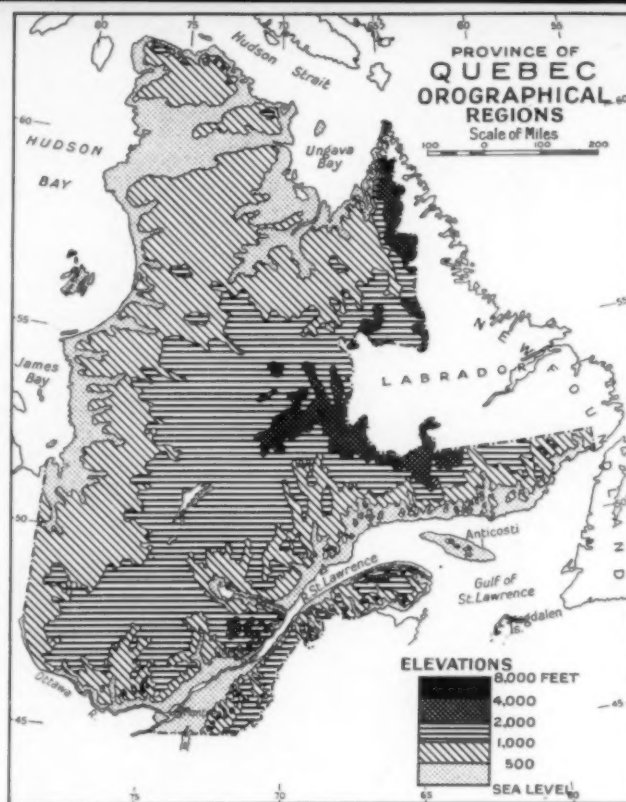
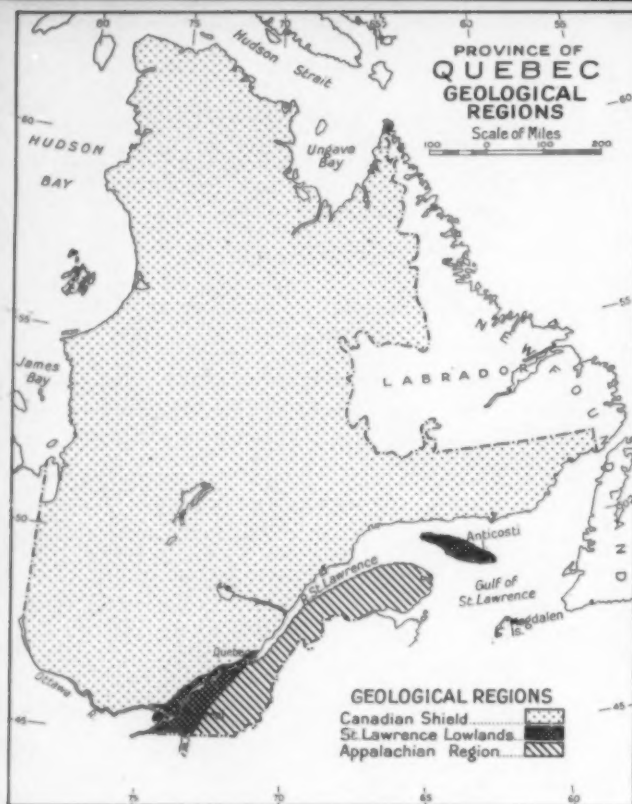
Generally speaking, the Appalachian Highlands of Quebec are confined to the territory in the vicinity of the United States border, and may be considered the continuation of the Green Mountains of Vermont and the White Mountains of New Hampshire. In the Gaspé Peninsula, however, they rise to elevations of over 4,000 feet in the Shickshock Mountains, furnishing some of the most picturesque scenery in Eastern Canada. This area does not possess natural navigable waters, but the passes and "notches" were easily conquered by the railway builders of the nineteenth century.

Dividing these two highland areas is the narrow triangular plain occupying the valley of the St. Lawrence and its principal tributaries, and generally referred to as the St. Lawrence Lowlands. The whole district was formerly the bed of the ancient Champlain Sea. It is an excellent agricultural area which provided a hospitable field for pioneer colonization.

Looking southeast from the summit of Mount Royal, across the city of Montreal and the St. Lawrence River to the Monteregian Hills.

Associated Screen News





Below:—A view upstream past the Chaudière Falls on the Ottawa River. On the left of the picture is Ontario (the site of Ottawa) and on the right, the Province of Quebec. (From a sketch in the Illustrated London News, October, 1880.)



WATERWAYS

Communication and transportation nearly always have their beginning in a country's waterways, and Quebec follows this development pattern. Early settlement began on the St. Lawrence shores and the river was the natural highway. Flowing northeast from Kingston to the Atlantic Ocean, the 700-mile stretch of the river from Montreal to the sea has become one of the important waterways of the world. It was on the shore of this river at Quebec that the *Royal William* was constructed. This ship was the first sea-going steamer ever built in Canada, and in 1833 made a place for herself in history as the first vessel to cross the Atlantic under steam the whole way.

The rivers of the northern watershed tumbling down from the Laurentian Plateau in a series of turbulent waterfalls offered, in their sharp drop from interior levels, almost insuperable resistance to the penetration of early explorers. An exception was the Saguenay River, which for 60 miles inland from the St. Lawrence cleft the country like a fiord. At the head of the deep channel is Port Alfred, a deepwater terminal with fourteen-foot tides. Today, above the head of navigation, great power stations generate over 1,500,000 horsepower for the industries located in the district, and in 1949 the port handled 2,218,000 tons of cargo in foreign trade, exports consisting chiefly of newsprint, aluminum, sulphite wood pulp and other bulk commodities.

The Ottawa River, rising deep in the Laurentian hills and cascading down through the greater part of its length, forms a natural boundary between the Provinces of Quebec and Ontario. This was the stream followed by Samuel de Champlain and later by the *coureurs de bois* on their journeys to Lake Huron. Following the Ottawa River to its junction with the Mattawa, they proceeded up the latter stream to its source, made a portage to Lake Nipissing, and thence descended the French River to Georgian Bay.

At one time it was proposed to make the necessary connections for a navigable waterway from Lake Huron to the St. Lawrence



The valley of the Chaudière River, one of the prosperous agricultural sections of the Appalachian region. This south-shore river joins the St. Lawrence above Lévis. Ciné-photographie

by this route but the plan was never authorized and navigation on the Ottawa River today is confined to barge traffic and small ships between St. Anne de Bellevue on the St. Lawrence and the city of Ottawa.

The St. Francis, Richelieu and other south shore rivers, flowing as they do from the foothills of the Appalachians across the lowland plain, were natural waterways for the canoe and bateau of the early explorers, and along the banks of these streams the villages of the New World grew and flourished. For modern navigation requirements, however, only one of these rivers is suitable—the Richelieu. This stream has its source in Lake Champlain and flows through flat terrain to meet the St. Lawrence River at the city of Sorel. A series of canals allows small ships and barges to navigate from New York City, via the Hudson River, to the Richelieu and the St. Lawrence. The Canadian section of this canal system, eleven miles in length, was constructed during the first half of the nineteenth century to provide a convenient means of communication and transportation



The road that winds through the country village. Bic, in the Appalachian Region.

C.N.R.

from the American seaboard to the St. Lawrence shores. The nine locks were completed in 1843 and improved during the year 1850.

About the same time another series of artificial waterways was constructed past the rapids of Lachine, Cedars and Soulanges to open up a traffic artery between the settlements on the St. Lawrence and those in

Upper Canada. These canals were enlarged during the ten years following 1895 to their present size, and are part of the important artery from the middle west to the port of Montreal and the Atlantic.

From Quebec City to Montreal the river accommodates any ship of not more than 30-foot draft, which precludes only some of the larger liners. Above Montreal the limiting clearances for the whole Great Lakes system are found in the Lachine Canal. The dimensions that will clear the locks of this navigation system are: length 256 feet, beam 43.6 feet and draft 14 feet. Ships have been built in Canada and in other countries to these dimensions for the express purpose of navigation in and out of the Great Lakes. It is not uncommon to see ships from foreign lands in such inland ports as Toronto, Milwaukee and Duluth.

Should the St. Lawrence Seaway Project be completed, besides developing an enormous power supply, it would also provide a clear path for ocean shipping to the head of the Great Lakes making deepwater ports of the great inland harbours of North America.

The bridge connecting the east and west shores of the St. Lawrence a few miles above Quebec.

C.N.R.





The Saguenay River, which flows into the St. Lawrence through a fiord-like cleft in the surrounding hills.

Canada Steamship Lines

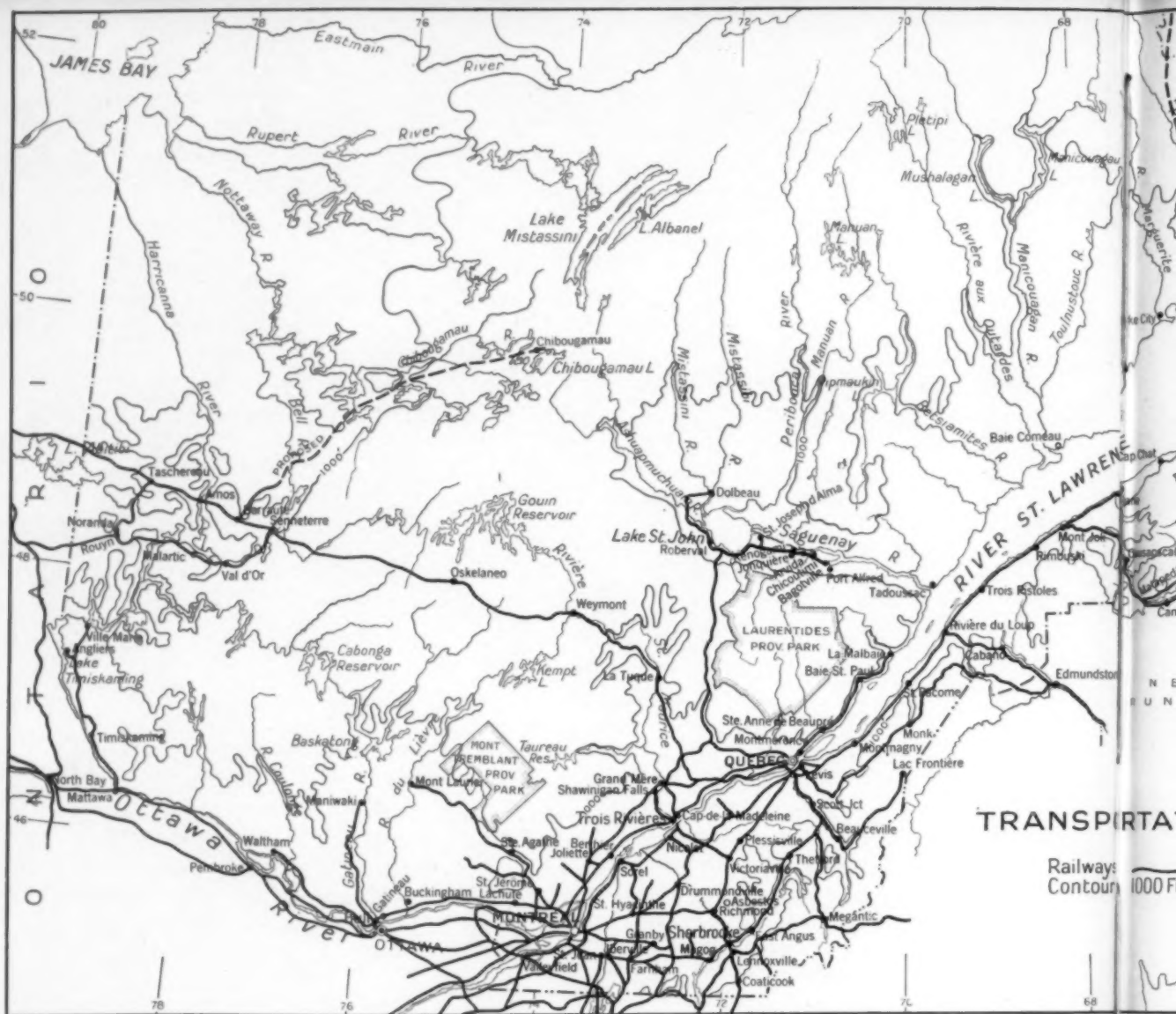
HIGHWAYS

As long as settlements and farms skirted the rivers, roads were a secondary means of communication and transport, or were vital only at the portages or carrying places where rapids and falls impeded river traffic. Soon,

however, farms were established inland and crude roads were built from river to farm. The responsibility for the building and maintenance of these roads was, in the French regime, vested in the Grand Voyer. It was his duty to see that the individual farmers

A road is cut across the Precambrian Shield in northern Quebec to the mining area or Chibougamau.



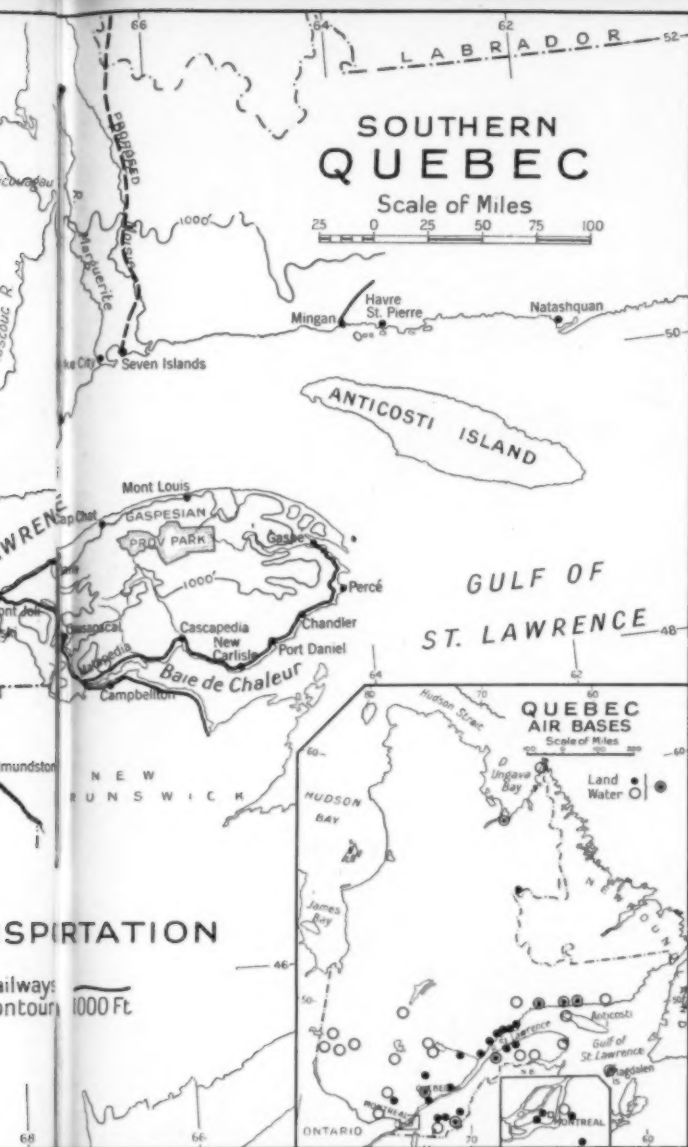


whose lands adjoined the roadway built and kept these roads in repair. In some cases soldiers were drafted to cut roads through forests and hilly, rocky country. The first through-road between Montreal and Quebec City was opened in 1734 and stage coaches made the trip in four days. Other early roads linked the south shore communities of the St. Lawrence Valley: Laprairie to St. Johns, Sorel to Chambly, and St. Johns and Longueuil to Chambly, to name a few.

Early thoroughfares through the typical French Canadian village showed a characteristic difference from those in the corresponding Upper Canada settlement. Dwell-

ings were built close to the street line, and frequently on the street line with over-hanging galleries. The roadways were narrow, barely allowing two carts to pass, a distinctive feature which still may be seen in some of the historic communities in Quebec. This quaint and old world charm is being preserved by the modern highway engineer who is building his asphalt thoroughfares in new locations, usually by-passing the villages.

Inadequate finances led the Government to let out contracts and rights for road building to private companies in some cases, and so the turnpikes and toll bridges were born. Through the years most of these impedi-



ments to the free movement of goods have been taken over by the provincial Roads Department and tolls abolished, but a few toll bridges still exist as a reminder of earlier years.

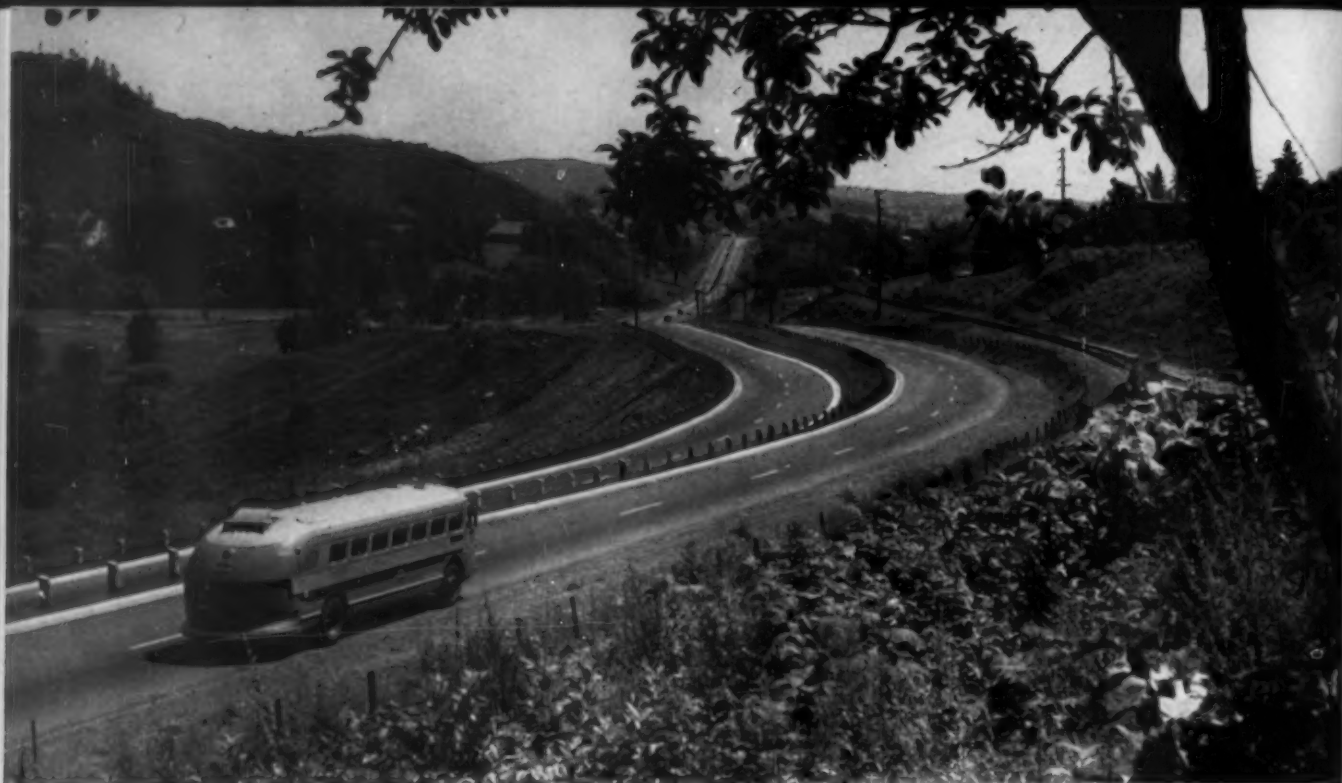
Highway building has kept pace with the times and the old narrow roads, following the natural contour of the hills, winding in hairpin turns, have been gradually replaced with asphalt and concrete highways, sometimes with three and four traffic lanes. Hills have been levelled, valleys filled in and twists eliminated in an effort to provide swift, safe travel. The road from Montreal to Noranda is a good example of the conquest of difficulties in road building on the Canadian Shield. Laid across the Precambrian hills for more than 400 miles, the road passes through some

Left:—Map of the southern part of the Province of Quebec, showing how transportation arteries have, with only a few exceptions, followed river courses — and pointing out the difficulties involved in penetrating the Canadian Shield by railway lines from the north shore of the St. Lawrence River.

The modern bus operates throughout the year on roads kept clear by snow-plough in winter.

Editorial Associates Ltd.





As settlement grows and traffic increases roads are improved — as in the case of this modern Laurentian highway.

Editorial Associates Ltd.

of the most rugged country in the province. Great tractors cut a swath through the forest; stumps and rock were dynamited. Easier grades were made by blasting out hills and filling in low lands, and all this through a land sparsely settled. There are few places where the motor car can be repaired or serviced on this road and even today the wise motorist looks to

his gas supply before he travels this way.

The magnificent panoramas that may be viewed on the Noranda road, as well as the road to Lake St. John and the road around the Gaspé coast have been bought at a price. The four-lane highways, with cloverleaf intersections, that are encountered in the St. Lawrence lowlands show highway building at its easiest, but the motor highway in the



A bus in operation between Montreal and Terrebonne in 1921.



Road-builders seek low contours through the Laurentian hills to ease the problems of construction.
C.N.R.

northern part of the province was built under the most adverse conditions of terrain and climate with every mile a challenge to the builder.

RAILWAYS

The invention of the steam engine in the eighteenth century and the subsequent introduction of the railway locomotive ushered in what has been called the "Railway Age", and in 1836 the first railway in the province was opened between St. Johns on the Richelieu and Laprairie on the St. Lawrence, a distance of sixteen miles. This facilitated communication between Montreal and New England by eliminating the long and costly detour around Sorel in the summer and by providing additional transportation services between the metropolis and the city of St. Johns in the heart of the lowland area. Eleven years later, in 1847, the province's second rail line, the Montreal and Lachine Railroad, was completed and opened for service. This railroad provided a convenient and dependable means of evading the rapids at Lachine and had the distinction of being the first rail line to enter the city of Montreal,

terminating near the site of the Canadian National Railways' Bonaventure Station. During the following years a number of additional lines were constructed but all were of the same character—portage railways that supplemented or replaced existing water-transport routes.

It was not until a century ago that a railway was built in Quebec to serve an entirely new district. In 1850 the St. Lawrence and Industry Village Railway was completed—the first step in pushing civilization into the wilderness beyond the range of navigable water. It was a short line, running twelve miles north from the river to the location of the present city of Joliette, but it was a start—the first toehold as it were—into the vast northland of which we know so little even yet. The line never did get very far inland, but it is interesting to note that the promoters headed their railroad in the right direction—towards the Canadian Shield that is proving so valuable to the province today, and which is confidently expected to become an even greater asset in the future.



Railways into the country frequently follow water routes.
C.P.R.

During the intervening years between 1850 and 1915 some three thousand nine hundred miles of rail lines were built in the province, some creeping furtively into the wilderness for a few miles to tap the nearby resources, but the majority following established water routes or providing additional service in the St. Lawrence Lowlands. This era was a period of rapid railway construction throughout the world and Canada was not behind in the race. As twin steel rails were laid across the continent many remarkable feats of engineering skill were performed—climaxed by the building of the Canadian Pacific Railway from Montreal to Vancouver. The period was also one of fierce competition in the transportation field and a number of curious operating practices were

The first railway engine in Canada—Champlain and St. Lawrence Railroad, 1837. (From a print in the Château de Ramezay.)

Timetable of the Champlain and St. Lawrence Railroad, August 1836.
C.N.R.

The Champlain & St. Lawrence Railroad Company,

[In connection with the Steamer *Princess Victoria* is now prepared to convey Passengers between MONTREAL and ST. JOHNS as follows:—

STEAMER.	CARR.
From Montreal, precisely	From Laprairie.
6 o'clock, A. M.	9 o'clock, A. M.
2 o'clock, P. M.	
5 o'clock, P. M.	6 o'clock, P. M.

CARR.	STEAMER.
From St. Johns.	From Laprairie.
7 o'clock, A. M.	6 o'clock, A. M.
2 o'clock, P. M.	9 o'clock, A. M.
	4 o'clock, P. M.

ON SUNDAYS

The Steamer and Carrs will leave as follows:—

STEAMER	CARR
From Montreal, precisely	From St. Johns.
10 o'clock, A. M.	7 o'clock, A. M.
5½ o'clock, P. M.	3 o'clock, P. M.

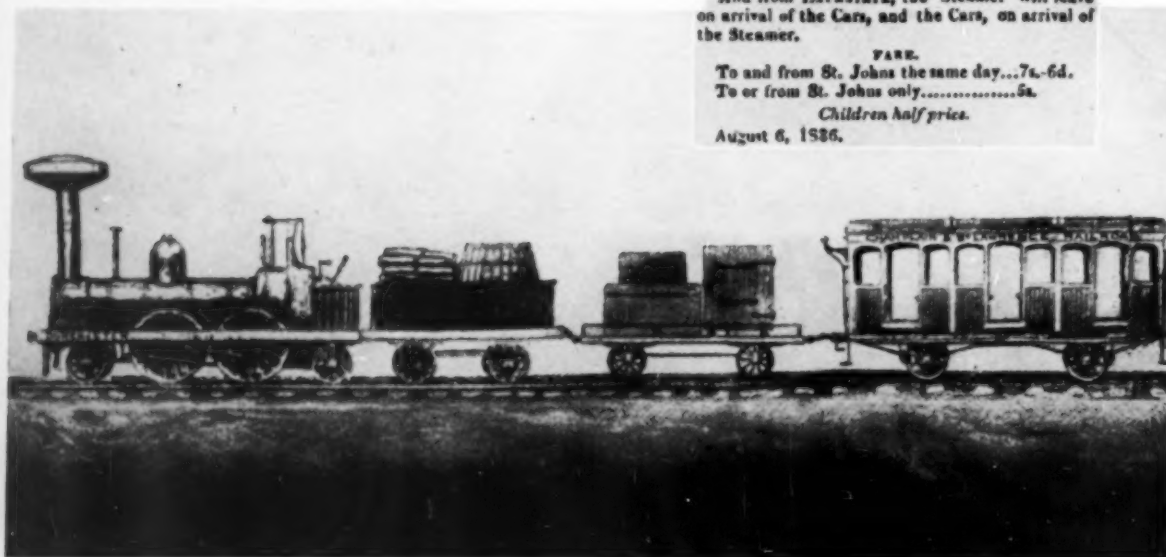
And from LAPRAIRIE, the Steamer will leave on arrival of the Carrs, and the Carrs, on arrival of the Steamer.

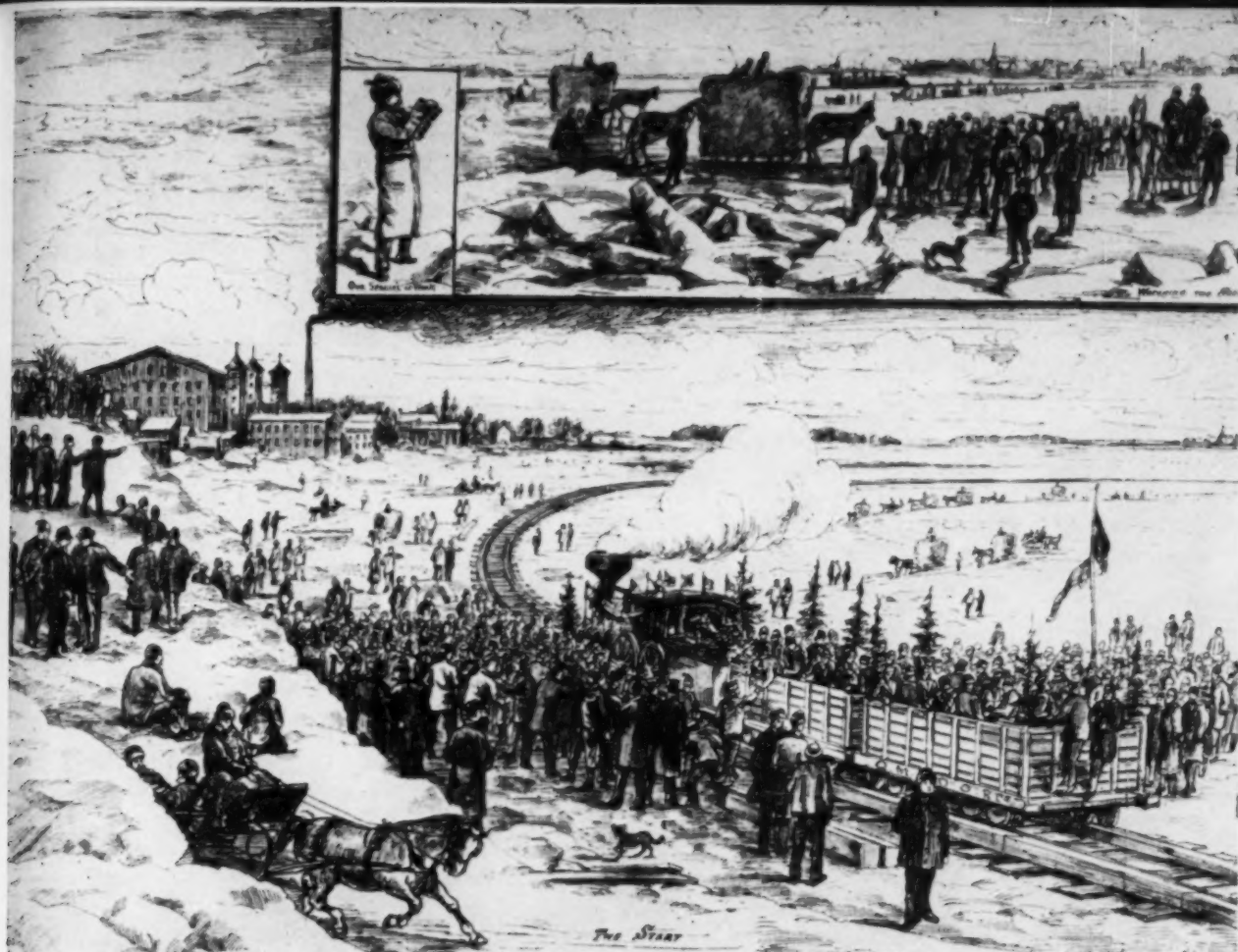
FARE.

To and from St. Johns the same day.....7s.-6d.
To or from St. Johns only.....5s.

Children half price.

August 6, 1836.





Courageous passengers at the opening of the railway that crossed the St. Lawrence on the ice in the winter of 1880.

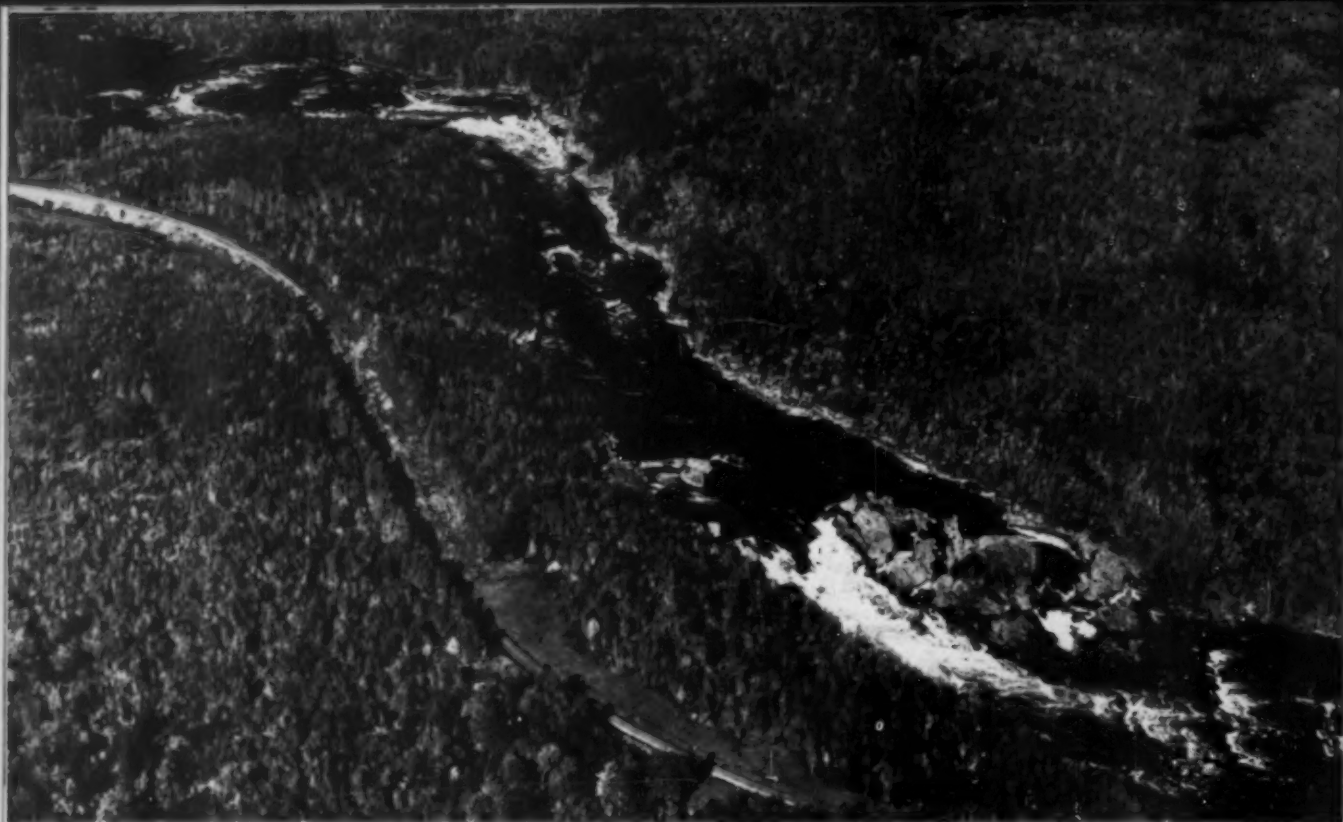
C.N.R.

inaugurated by the smaller lines to combat the strength of the larger and more powerful organizations.

One of the most novel and interesting undertakings was the joint service provided by the Quebec, Montreal, Ottawa and Occidental Railway and the South Eastern Railway in their efforts to link their transportation services on the north and south shores of the St. Lawrence at Montreal. During the summer they were able to accomplish this easily by a ferry service across the river but the frozen stream in the winter presented a different problem—a problem that was solved by one of the most ingenious enterprises in railroad history. To the amazement of the beholders, they actually built a railway across the ice from Longueuil to Longue Pointe—a service that ran suc-

cessfully for three winters from 1880 to 1882. At first some citizens had grave misgivings as to the safety of the locomotive, cars and passengers as they made their way across the icebound river, but success proved the practicability of the scheme which was discontinued only when the sponsoring railways became amalgamated with other lines. The project effectively circumvented the monopoly of the Grand Trunk Railway which controlled the Victoria Bridge, at that time the only reliable means of crossing Canada's great inland waterway east of Niagara.

The construction of the National Transcontinental Railway from Moncton to Winnipeg during the early years of the present century may be termed the first real invasion of the Canadian Shield area of Quebec. The Quebec and Lake St. John Railway, it



The railway (left) follows the valley of the turbulent St. Maurice River up to the plateau of northern Quebec.

Photographic Surveys

is true, had been pushed through from the capital city of the province to the Lake St. John area, but most of the territory served by this line had already been opened to settlement by water transportation up the Saguenay River. The National Transcontinental however was extended across northern Quebec following approximately the crest of the watershed between the St. Lawrence drainage system and that of Hudson Bay, and thus crossed the top of the plateau which here has an elevation of about 1,500 feet. It was possible to reach the top of this plateau at this elevation without excessive grades only by following the sole eastern approach from the St. Lawrence Lowlands, the valley of the St. Maurice River. The physical barrier to other routes is, of course, the projection of the great inland plateau locally known as the Laurentian Mountains. Any of the more direct routes that have been proposed have not proved practicable, an excellent example of the limitations imposed by topography, that so frequently de-

termines the path of transportation and the consequent direction of development.

AIRWAYS

Air transport, while a relative newcomer to the communications field, is nevertheless the most important means of travel in that vast area of Quebec lying north of the National Transcontinental line, now known as the Laurentian and Cochrane divisions of the Canadian National Railways. For a number of years explorers, prospectors and hunters had ventured north of this railway by dog team and canoe, traversing the dense forests and numerous lakes with difficulty and danger, but not until 1926 was there any means of covering the territory easily and frequently. In that year Canadian Airways Limited was formed and began operating regular aeroplane service from Trois Rivières, Roberval and Seven Islands—the forerunner of the many such facilities that now serve the north country. Those of us who live in the cities that our modern civil-



In the remote regions of the north, men, equipment and supplies are moved by air. This cargo has been flown in to Knob Lake, area of the Quebec-Labrador iron ore development.

C.P.R.

ization has formed have little concept indeed of the part played by these aircraft in wresting this territory from the primeval wilds that formerly proved such a forbidding barrier to man. Men, equipment and supplies are flown in and out of these remote, isolated posts and many lives have been saved by the timely arrival of first aid via the skyways of the north.

From Noranda, Val d'Or and many another mining community aircraft are used to explore and map, and as a means of communication for otherwise inaccessible loca-

tions. The bush pilot service, as it is generally known, is unique in Northern Canada. The pilot is not trained in the meticulous method of the large air lines. He must fly the country in which he operates by landmarks and compass, popularly called "flying by the seat of his pants". His vocation evokes the romance of the early explorers coupled with the search for scientific information for the development of the country.

There are few spots in the Precambrian Shield area where land-based aircraft are maintained. Here the country is a succession

The airport at Dorval, near Montreal, hub of continental and transatlantic air traffic. In the background is the St. Lawrence.

C.P. Airlines





Behind the C.N.R. station in Montreal (foreground) is the Airways Building which houses the international headquarters of I.C.A.O. and I.A.T.A.

C.N.R.

of wooded hills, lakes and rivers. From the air much of this country gives the appearance of innumerable bodies of water separated by wooded islands. After the spring thaw aircraft are operated with pontoons, enabling them to land at any point where sufficient water area can be found for a take-off. During the time when winter conditions prevail, the aircraft are operated with ski landing gear.

In a country of vast distances and widely separated centres of population it was only natural that air transportation should be developed early. By 1931 regular commercial air services were operated between Montreal-Toronto-Detroit, Montreal-Albany, and Montreal-Moncton-Saint John. Today these routes have been linked into a transcontinental system serving the main centres of the country. From the great airport at Dorval, fourteen miles west of Montreal, large pas-

senger and freight planes carry the urgent commerce of Canada to Canadian cities and towns, as well as to the United States and Europe. Most of the large commercial airports of Canada are operated by the Dominion Government's Department of Transport and are equipped with up-to-date weather stations and the latest radio aids for aircraft guidance and control.

In 1940 daily coast-to-coast airmail service was inaugurated, and since 1948 first class mail weighing one ounce or less has, over long-distance routes within Canada, been carried by air for ordinary mail rates.

Montreal has the distinction of being the headquarters of the International Civil Aviation Organization, an affiliate of the United Nations set up to make the laws for international air services, and the International Air Transport Association which unites world-wide air services.

FUTURE WAYS

The extent to which physiographic features control the paths of earthbound transportation is sharply evident in Quebec. The barrier to railway penetration imposed by the rugged topography of the Canadian Shield which has forced the railways to approach the northern interior through the St. Maurice and Ottawa valleys is an excellent example. This barrier will have to be similarly overcome by the rail line that is now under construction to reach the Quebec-Labrador iron ore development. This line, the Quebec North Shore and Labrador Railway, will extend from the vicinity of Seven Islands on the St. Lawrence estuary to the site of mining operations at the Quebec-Labrador border 360 miles inland. Access to these interior plateau levels will be through the valley of the Wacouana, Nipississ and Moisie Rivers, one of the larger river systems of the north shore. It is expected that with full development of the iron ore deposits upwards of 10,000,000 tons of iron ore a year will be moved over this projected line to a shipping point at Seven Islands.

Farther east in the Allard Lake section the Quebec Iron and Titanium Corporation has built a railway to develop an immense body of ilmenite which will be treated at Sorel for the production of titanium and iron. Here the problem of conquering the ascent towards upland levels is minimized by the proximity of the ore deposit to the shore, only 28 miles of rail line being required north of Havre St. Pierre. Both lines will be privately operated.

One current transportation development of particular note is the construction of a branch line of the Canadian National Railways from Barraute in western Quebec on the transcontinental line to a point near Kiask Falls on the Bell River, a distance of 44 miles. This line is being built primarily for the development of forest products traffic and for colonization but it is oriented in the direction of a known mineral belt where there are not only signs of ore deposition but promising mining developments in the early stages. If the territory should prove as rich as that opened up by the Val d'Or line fifteen years ago it is probable that the line will be continued to the Lake Chibougamau district, which the provincial government has already linked to Lake St. John by means of a gravel road. Ultimately both road and rail may be extended beyond this towards Lake Mistassini to provide the transportation ways that will keep pace with the future development of the Province of Quebec.

The city of Quebec stands fast by the mighty St. Lawrence which belongs to its past and to its future, flowing unchanged on its way.

Jos. W. Michaud





Above:—A fortress abode of peaceful lamas, Lamayuru Lamasery (built about 200 years ago) is one of the many Buddhist monasteries in Ladakh which, though less wealthy and containing fewer monks than when the area formed part of Tibet, still retain their importance.



Ladakh - Roof of the World

Photographs and notes by H. K. Burki

Though politically separated from Tibet over a century ago, and now a part of Kashmir State, Ladakh is still a land of lamas and distinctly Tibetan in character. Surrounded by the lofty Karakoram Mountains and the mighty Himalayas, and at no point less than 8,000 feet above sea-level, it has often been called "the roof of the world". The needs of the simple Ladakhis are few, but these short, stocky and hardy people (belonging to the sect of Red Lamas — the older variety) have a difficult time eking out a living. Today the real significance of their little-known territory lies in the fact that a subjugated Tibet may well be encouraged by Mao Tse-tung to stake its claim for this ancient land. Any development along these lines might then involve Red China's coming into direct conflict with India and Pakistan, Ladakh being a disputed area between these two Asiatic dominions of the Commonwealth.

Far left:—The Head Lama of Lamayuru Lamasery, supreme in all matters religious. Except on ceremonial occasions, he does not differ in dress and general appearance from his followers, who nevertheless hold him in high regard.

Left:—This outsized diety dominates the dimly lit hall of the lamasery, where shaven-headed lamas hold services which are accompanied by the beating of drums and blowing of horns.

Right:—From the roof of Tikse Lamasery, ten miles from Leh, the Head Lama surveys his cultivated lands in the valley below, surrounded by perpetually snow-covered mountains. It is scarcely surprising that such a large number of inhabitants of a country so conducive to contemplation should choose to spend their lives within monastery walls.



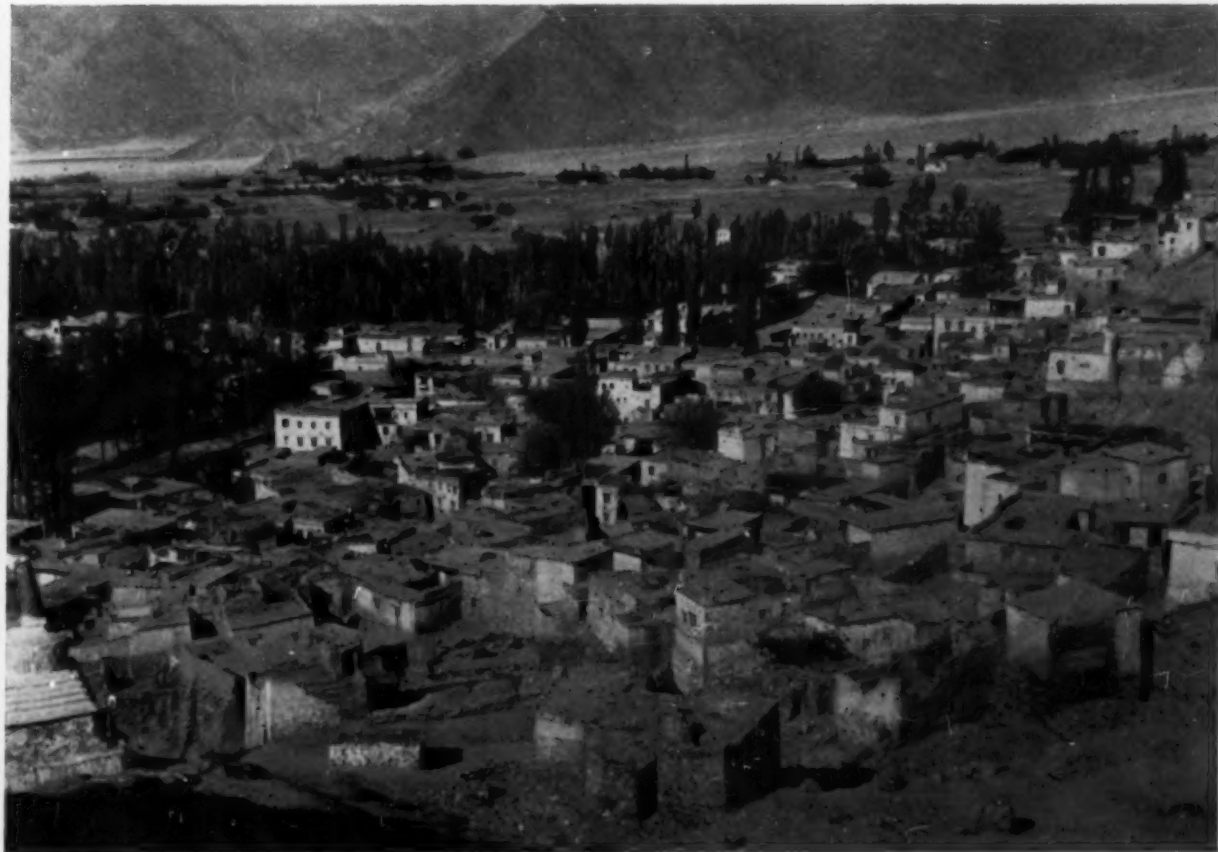


Left:—In one of Ladakh's many small valleys surrounded by rugged and barren mountains, Ladakhis are seen harvesting barley and wheat; these ripen sometimes at 14,000 feet above sea-level — the highest cultivation in the world.

Lower left:—Terraced and pleasantly patterned lands in the upper Indus Valley yield barley and wheat to sustain the Ladakhis. The whole area is such a mass of mountains that farmers are forced to use all the available level ground, sometimes cultivating it in the most out-of-way places.

Right:—The Ladakhi women, whose style of dress does not vary with the seasons, are expected to share the burden of tilling the fields along with their menfolk.

Below:—Tucked away in one corner of the upper Indus Valley is Leh (11,500 feet), capital of Ladakh and centre of trade between China, Tibet and the Indo-Pakistan sub-continent.





The Geographical Record

by NORMAN L. NICHOLSON

THE GEOGRAPHY COMMISSION OF THE PAN-AMERICAN INSTITUTE OF GEOGRAPHY AND HISTORY

THE PUBLICATION of the first number of *Boletim da Comissão de Geografia do Instituto Panamericano de Geografia e História* recalls some of the recent activities of an organization which was introduced to the readers of the *Canadian Geographical Journal* in February 1950.

The Pan-American Institute of Geography and History was founded as the result of a resolution of the Pan-American Assembly held in Havana in 1929. The Institute usually meets every four years, the locale of the meeting varying from place to place throughout the Americas. Its work is carried out by three commissions, one on cartography, one on history and one on geography. The three commissions meet together at each General Assembly of the Institute and separately during the inter-

vening years. Of these three commissions, that on geography is the youngest. The first steps to organize it were taken at the Fourth General Assembly of the Institute which was held in Caracas in 1946 and the first meeting of the Commission on Geography was held in Rio de Janeiro in August 1949. The Fifth General Assembly of the Pan-American Institute, which was held in Santiago, Chile, in 1950 was, therefore, particularly noteworthy geographically, as it was the first General Assembly which included a fully constituted Commission on Geography.

The Commission on Geography is, in effect, an agency which stimulates, co-ordinates and makes known geographical studies of the Americas. It works in co-operation with existing institutions and scholars and its fundamental purpose is to work in the field of American geography in a broad sense. Eighteen different American countries were represented at the meetings in Rio de Janeiro and eleven at the

At top:—The President of Chile, His Excellency Gabriel Gonzalez Videla (centre front), on his way to the Hall of Congress to open the Fifth Assembly of the Pan-American Institute of Geography and History in Santiago. With him are Mr. Robert Randall (left), President of the Institute, and General Cañas Montalva (right), Chairman of the organizing committee.

Foto Eva, Santiago

meetings in Santiago. The Canadian representative on the Commission on Geography is Dr. J. W. Watson, Director of the Geographical Branch in the Department of Mines and Technical Surveys. At the meetings in Rio de Janeiro he was represented by Mr. W. Stark of the Department of External Affairs and at the Santiago meetings by Dr. N. L. Nicholson of his own Branch.

Although the Commission on Geography does not meet frequently, its work is continually being carried on by scientific committees through correspondence and consultation. The original four were the committees on settlement and colonization; on the classification and use of the land; on teaching and methodology and on the geography of the Americas. At the Santiago meetings, a fifth committee was set up on natural resources. These committees were so organized that they provide working groups within the major fields of physical, human and regional geography, the teaching of geography and the publication of the results of geographical research.

The procedure followed at the Fifth General Assembly is typical of the way in which matters progress in the Pan-American Institute of Geography and History. To begin with, the officers of the Institute, the delegates of all three commissions and the diplomatic officials of the various countries concerned assembled in the Hall of Congress of Chile, in what would correspond in Canada to the House of Commons in Ottawa. Then, in a very impressive setting, the Assembly was ceremoniously declared open by the President of the Republic of Chile, His Excellency Gabriel Gonzalez Videla. The next day, the delegates from all the countries and all three commissions met together in plenary sessions to discuss matters of common interest. Then, during the following two weeks, each commission met separately to consider technical matters and future programs.

The discussion of the Commission on Geography began with each delegate presenting a report on the geographical ac-

tivities in his country since 1949, when the commission last met. This part of the activities was most useful for each country was not only able to learn about the geographical research being carried out in all the other countries, either by government agencies or universities or private institutions, but also the *way* in which this work was being done. Thus an exchange of technical information and methods of research was effected.

Following this, the geographers went on to consider the lines of geographical research that might be followed throughout the Americas in the next few years. These discussions centred around the reports of the scientific committees which had been working between 1949 and 1950. For example, the committee on settlement and colonization, under the chairmanship of Dr. J. W. Watson of Canada, presented to the Commission on Geography certain suggestions for carrying on the combined work in this field. These were discussed point by point in Santiago and certain resolutions made on the basis of the work of the committee and the comments of the individual delegates. These resolutions stated that the Population and Colonization Committee should endeavour to stimulate the preparation and co-ordination of an annual bibliography of reports and treaties dealing with the population and colonization geography of the Americas; that it should set up a microfilm library to include important theses and unpublished monographs and make a survey and prepare index maps showing all the areas which have so far been the object of field studies in colonization and population geography. Other resolutions gave further details of the program for this committee to follow. The same preparatory procedure had been followed by the chairmen of the other committees so that their reports could be discussed in Santiago.

In addition to the discussions, two exhibitions were held. One displayed selections of the maps which had been published recently by the various countries of the American continents and was arranged by the Com-



A partial view of the city of Santiago, Chile, where the Assembly was held.

Foto Mora, Santiago

mission on Cartography. The other exhibition included recent books on geographical, historical and cartographical subjects.

But there were other activities, for no geographer could attend a conference and be content with what went on within the four walls of the assembly room. This was recognized by the Chilean hosts who did all they could to facilitate excursions within Santiago and into the surrounding countryside. Santiago is not only the capital of Chile, but, with a population of 1,120,000 it contains about one fifth of the total population of the whole country. But its sociological aspects are more than supplemented by the attractions of its physical setting in a valley about 30 miles wide and some 1,800 feet above sea level. On the east are the snow-capped Andes, rising to over 10,000 feet and nearly always visible from the city and on the west are the coast ranges which average about 1,000 feet in height. Although Santiago itself is very much like any modern city, it has a unique feature in the hill of San Cristobal which is almost in its centre, somewhat reminiscent of Mount Royal in Montreal. This is one of five hills within the city, but is unique, not only because almost the whole city can be seen from it but also

because it is a public park where one can see a wide range of plants typical of a Mediterranean environment. This variety is increased because of the changes in microclimate which result as the altitude increases to 2,920 feet.

Santiago is not much more than 100 miles from the Pacific coast and most of the delegates were able to make the journey to one of the ports, such as Valparaiso, or to a seaside resort like Santo Domingo. All of the routes to the coast cross the coast ranges, from which the pattern of settlement and land use can be observed in the intermontane valleys.

In this way the geographers who had come from all parts of the American continents were able to obtain glimpses of some of the problems faced by the host country and by rotating their meeting place, the members of the Pan-American Institute of Geography and History will ultimately gain further insight into the geographical problems of the American continents as a whole. Thus it was fitting that after two weeks of discussion, consultation and observation, the Fifth Assembly should be solemnly closed, again in the Hall of Congress, by the Minister of External Affairs of Chile.

A List of Books Useful in Teaching Geography

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Cartography and Physical Geography

- Bennett, H. H. Soil conservation. McGraw-Hill, New York, 1939, \$6.50.
- Blair, T. A. Climatology — general and regional. Prentice-Hall, New York, 1943, \$4.00.
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- Cotton, C. A. Climatic accidents in landscape-making. Wiley, New York, 1948, \$7.00.
- Cotton, C. A. Geomorphology — an introduction to the study of landforms. Wiley, New York, 1945, \$7.50.
- Cotton, C. A. Landscape — as developed by the processes of normal erosion. Wiley, New York, 1949, \$10.00.
- Finch, Trewartha & Shearer. The earth and its resources. McGraw-Hill, 1948, \$3.20.
- Greenhood, D. Down to earth; mapping for everybody. Holiday House, New York, 1950, \$5.00.
- Hill, A. F. Economic botany: a textbook of useful plants and plant products. McGraw-Hill, New York, 1937, \$5.50.
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- Holmes, A. Principles of physical geology. Nelson, 1944.
- Kellogg, Charles E. The soils that support us. An introduction to the study of soils and their use by men. Macmillan, New York, 1947.
- Kellaway, G. P. Map projections. Methuen, Toronto, 1946, \$2.75.

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- Lane, Ferdinand C. Earth's grandest rivers. Doubleday, New York, 1949.
- Lobeck, A. K. Geographical exercises. Columbia University Geographical Press, New York.
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- Newbigin, M. I. Plant and animal geography. Methuen, London, 1948, 16/-. .
- Pettersen, S. Introduction to meteorology. McGraw-Hill, New York, 1941.
- Raisz, Erwin. General cartography. McGraw-Hill, New York, \$6.00.
- Seward, Sir Albert Charles. Geology for every man. The University Press, Cambridge, 1945, \$3.50.
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- Strahler, A. N. Physical Geography. Wiley, New York, 1951, \$6.50.
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- Jones, C. F. and G. G. Darkenwald. Economic Geography. Macmillan, New York, 1947, \$4.50.
- Huntington, Ellsworth. Principles of economic geography. Wiley, New York, 1940, \$5.00.
- Kimble, G. H. T. and L. D. Stamp. An Introduction to Economic Geography (Canadian Edition). Longmans, Green, Toronto, 1950, \$2.25.
- Landon, C. R. Industrial geography. Prentice-Hall, New York, 1939, \$4.25.
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- Renner, G. T. et al. World Economic Geography. Thomas Y. Crowell Co., New York, 1951, \$6.00.
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 - Canada, Dept. of Mines and Technical Surveys, Geographical Branch. An introduction to the geography of the Canadian Arctic.
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 - Koeppel, C. E. The Canadian climate. McKnight and McKnight, Bloomington, 1931, \$3.50.
 - Moore, E. S. Elementary geology for Canada. J. M. Dent, Toronto, 1944, \$3.85.
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 - Smith, J. R. and M. O. Phillips. North America — its people and the resources, development, and prospects of the continent as the home of man. Harcourt, Brace and Company, New York, 1940.
 - Taylor, Griffith. Canada. A study of cool continental environments. Methuen, London, 1947, \$5.00.
 - Taylor, Griffith et al. Canada and her neighbours. Ginn and Co., Boston, 1947, \$2.50.

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- Atlas of the Provinces of Canada. The Book Society of Canada, Ltd., Toronto.
- Bartholomew, John. The advanced Atlas of modern school geography. McGraw-Hill, Toronto, 1950, \$8.50.
- Bartholomew, John. The Regional Atlas of the World. The Geographical Institute, Edinburgh, 1948, \$9.00.
- Canada, Dept. of Citizenship and Immigration. Canada descriptive atlas. King's Printer, Ottawa, 1951, \$1.00.
- Denoyer, L. Philip. Abridged Elementary School Atlas. Denoyer-Geppert Co., Chicago, 1944.
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- Encyclopaedia Britannica World Atlas. Encyclopaedia Britannica, Inc., Toronto, 1951, \$23.50.
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- Blanchard, William O. Exercises in the geography of Europe. Heath, Boston, 1946.
- Fitzgerald, Walter. The new Europe. Harpers, New York, 1946.
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- Carlson, F. A. Geography of Latin America. Prentice-Hall, New York, 1946.
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EDITOR'S NOTE-BOOK

The work of Richard Harrington is well known to our readers. He travels widely by any method from dog-team to aeroplane and photographs all parts of Canada and its people. His skilful camera work is making Canada pictorially known in many countries.

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E. O. Hoppé has contributed much to the development of photography as an art. German-born and European-educated, Mr. Hoppé has long lived in England, where he now devotes considerable time to writing.

* * *

R. B. Thomas and Anthony Clegg were both born in Toronto, Mr. Thomas remaining there and attending The University of Toronto, Mr. Clegg residing and being educated in Quebec. During the past few years Mr. Thomas has been making studies of communities in Eastern Canada to assess their possibilities for industrial development. Mr. Clegg has long been interested in transportation; he is an executive member of the Canadian Railroad Historical Association and has written a number of articles dealing with railways and transit services. Both men are now in the Research and Development Department of the Canadian National Railways.

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H. K. Burki, a writer of short stories and articles from Pakistan (now living in London), served with the then Royal Indian Navy during World War II, and subsequently worked for four years as a sub-editor with the *Pakistan Times* at Lahore. As a free-lance, he has since then had a number of articles published in India, Pakistan and England.

* * *

Norman L. Nicholson is on the staff of the Geographical Branch of the Department of Mines and Technical Surveys. Before joining the government service, Dr. Nicholson lectured in geography at The University of Western Ontario.

V

International Training Centre for Aerial Survey in The Netherlands

Discussions between the Economic Development and Stability Division of the United Nations and various agencies of the Netherlands Government resulted in the establishment of an International Training Centre for Aerial Survey.

A special Foundation was established by the Technical University at Delft and the Agricultural University at Wageningen to organize and operate the Training Centre.

The Foundation's aim is to provide for scientific training in the practical application of aerial survey and to promote the science of aerial survey, particularly with a view to furthering social and economic development.

Its primary object is to enable the Fellows to practice, in their own countries, the particular branch of aerial survey in which they have been trained. Special studies will be made of the methods of aerial survey for the exploration and development of the countries in question, and the Foundation proposes to establish co-operation between scientists and technicians of various nationalities.

To overcome the various difficulties, representatives of the different trends and schools in this field will be brought together. Teachers of different nationalities will be invited for the dual purpose of scientific co-operation and to instruct.

The specific subjects to be studied and taught will be, Aerial Photography, Photogrammetry, Geology of the Crust of the Earth, Forestry, and Social Science and Cultivation Techniques.

In order to be admitted, the Fellows will require a degree in the field in which they are going to specialize. On this basis, it will be possible to complete a specialized course in one full year. Successful candidates of a theoretical and practical examination will be granted a Certificate of Qualification.

Instruction will be given in English but tuition in French, German or Spanish can be arranged in case of sufficient demand.

Seats on the Board of the Foundation have been reserved for representatives of the Universities of Delft and Wageningen, the United Nations and specialized agencies of the United Nations.

Funds for the establishment of the Institute and for the acquisition of instruments will be made available by the Netherlands Government.

Housing facilities will be provided by the International Training Centre.

The cost of tuition, board and lodgings will amount to \$140.00 a month in United States dollars.

The organization will be put into operation during 1951. The number of Fellows will be limited but gradually increased to 70.

Enquiries about enrolment should be addressed to "International Training Centre for Aerial Survey, c/o Professor W. Schermerhorn, 3 Kanaalweg, Delft, The Netherlands."

AMONGST THE NEW BOOKS

Yachtsman's Camera*by Carleton Mitchell*

(Van Nostrand, Toronto, \$6.50)

If you take any joy in sailing, either actively or passively, this is a book you'll want to add to others by the same author. If you take any joy in photography, it is a book you can hardly do without, unless you are so advanced an amateur as to be up to professional standards, and even then you'll want to own it for the sheer pleasure of reading it and studying the delightful photographs which are an integral part of the story.

It's a book that divides itself into three principal parts: the text; the photographs; and the Camera Primer. The text contains first a lyrical eulogy of sailing written from a full heart and a full experience which will bring tears of pleasure and nostalgia to the eyes of many, and also a most useful commentary on the illustrations.

The photographs are excellent. This is not surprising in itself for Carleton Mitchell is well known as one of the handiest men with a camera ashore or afloat, but what is, if not actually surprising, at least most gratifying is to find that the illustrations do actually illustrate. They carry out the mood of the text and, though it is clear that they have been carefully selected (from how many hundreds, I wonder) they never seem to have been dragged in as 'something near enough'. Many of them are beautiful, many amusing, and all are well worth careful study.

It is the Camera Primer that I like best of all. This is a clear cut *must* for all enthusiastic amateur photographers. It provides you with a basic formula from which you should depart only for the best of good reasons: these reasons are listed and explained, but the basic formula remains. Here it is. Use fast film, such as Super XX; set your shutter at 1/200 or 1/250; use a K2 filter; set your stop at *f*:11; focus on infinity, and leave your camera at those settings. Nine times out of ten it will be set correctly for the scene you want to shoot, and you are ready as soon as you can get it out of its case. It is sound advice. Read it again and again and follow

his instructions to the letter. Then read the commentary on the illustrations, most of which follow this basic formula, examine the photographs one by one, noting when and why it was deviated from, and your own pictures are bound to be better than ever. I'm quite sure mine will be.

DOUGLAS LEECHMAN

* * *

Hudson's Bay Trader*by Lord Tweedsmuir*

(Ambassador Books, Toronto, \$3.75)

The present Lord Tweedsmuir spent the year 1938-39 in the service of the Hudson's Bay Company at Cape Dorset, the southwestern extremity of Baffin Island. This diary of that year was written, he says in the preface, "for something to do; and also from an unwillingness to allow so much that was strange, so amusing, and so exciting, to go entirely unrecorded. Much of it was written with very cold hands. It was never written to be published". The chronicle is recorded simply, factual almost to bareness, yet every line is stamped with the author's unique sense of the mystery, the humour and the adventure of life. This is a book that tells how it *feels* to be a white man living in the Arctic.

As naturalist and sportsman Tweedsmuir was interested in every aspect of his surroundings and took delight in the stern tests of physical endurance which the country laid upon him. I was particularly impressed by the wild excitement of sledge-travel and the incredible variety of conditions that may be encountered in a single journey. The traveller depends greatly upon his huskies, whose uncanny instinct will lead to an igloo on the trail, or discover a trap lost in the snow. In the brief open season we share the exhilarations of the walrus and seal hunts, so essential to the existence of the natives. Then, ducks and geese appear, but only the ptarmigan, the raven and the snowy owl stay through the Baffin Island winter. Trapping is the winter occupation, and the means of wealth to the Eskimo. As a people, the Eskimo enter the pages surprisingly little, but there are telling and sympathetic descriptions of individual natives.

(Continued on page VII)

ANNUAL MEETING

The Canadian Geographical Society

The Society will hold its twenty-third Annual General Meeting in the Lecture Hall, National Museum of Canada, Ottawa, on Thursday, February 21st, 1952, at 8:30 p.m. The speaker at the meeting will be Mr. Norman Marr, Chief of the Water Resources Division of the Department of Resources and Development, whose subject will be—"Columbia River Basin".

(Continued from page VI)

The book is entirely lacking in startling disclosures or any occurrence that seems out of the ordinary course of arctic life. Its value stems from the author's gifts of pertinent observation and incisive description, which combine to re-create the immediacy of each event. "What a life this is! Peace, complete and perfect. No neighbours except the animal creation; a quiet routine of meals and varied jobs, sometimes hardship and risk to add variety, and always that glorious cold, white silence." These are the words of a man alive to nature and at peace with himself.

Eighty-four photographs, mostly by the author, admirably complement the text. I must complain bitterly, however, at the lack of an adequate map. Had the end-paper map of the Dominion of Canada been replaced by a rough sketch map of the area immediately concerned, the book—and its readers—would have been better served.

WALLACE R. JOYCE

* * *

Milestones on the Mighty Fraser

by C. P. Lyons

(J. M. Dent and Sons, Toronto, \$3.50)

Ches Lyons has written a book for the tourist — not the tourist who speeds through an area simply for the sake of having been there, but the tourist who really wants to know something about the country he is visiting. The book, which provides easy and colourful reading, covers the highway route from Vancouver to Kamloops along the Fraser and South Thompson rivers. Lyons tells the traveller interesting stories — some true and some legendary — about the places through which he is passing. There is a bit of history, an anecdote or two about some of the local characters, and a great deal of excellent, accurate description. Undoubtedly the author's intention is to educate the tourist, and his book is a painless way of doing it.

The introduction has general information of interest to any reader wanting to know about British Columbia geography. Lyons lists some of the books on the province's birds, animals, flora, geology, etc; tells the reader where to obtain good topographic and geologic maps; and gives some directions concerning licences. The route starts in downtown Vancouver and takes the traveller through the great urban area of Greater Vancouver, over the Fraser River, and into the fertile farmlands of the Fraser River delta. The small agricultural villages acquire real meaning when one reads how they got there and how they fit into the general regional economy. Road junctions are noted and attention is called to interesting side-trips. The delta ends at Hope and the tourist enters the impressive and "mighty" Fraser River canyon. The powerful torrent which drains almost half of British Columbia has cut a deep gash, more than 2,000 feet deep, into the interior plateau. The road hugs the side of the canyon walls, generally high up, and there are continuous breath-taking views

of the foaming river, the thin ribbons of the railways below, the dense, tall forests on the slopes, and the jagged, picturesque peaks rising above. At Lytton, we leave the Fraser and follow the Thompson River through the "dry belt" of interior British Columbia to Kamloops. The diversity of the province's geography is well-illustrated in this short trip of 250 miles — from tall, coastal forest to dry grassland; from broad, fertile lowlands to majestic mountain peaks; from the intensive small farms of the delta to the extensive rolling ranchland; from a great urban area, with half a million people, to miles and miles without a settler.

These contrasts comprise British Columbia, and Lyons describes them well. Throughout his story there are paragraphs concerning the geology, for those who wonder what caused the mountains; there are detailed descriptions of some of the flowers seen along the road—placed appropriately in the travelogue at the places where the flowers are most numerous. He tells, too, of the animals that the watchful traveller may see in some of the sparsely-settled areas; and for those interested in history he has caught the colour and spirit of the Fraser River Gold Rush days of 1858, many of the old settlements being brought to life again. There is a little bit of everything in Lyons' book; but it is not a hodge-podge. It is well organized, has an excellent index, and sets a high standard for travel guides.

The author, who is with the Parks Division of the British Columbia Forest Service, knows the province intimately, and has packed the rich fruits of experience into his book (the first of a travel series on British Columbia). Discerning visitors who read it while journeying up the Fraser canyon will receive an excellent lesson in geography while enjoying a pleasant field-trip and a holiday.

J. LEWIS ROBINSON

* * *

Canada's Century

by D. M. LeBourdais

(The Methuen Company of Canada,

Toronto, 1951, \$4.00)

In the light of Canadian economic and political development since World War II, it was inevitable that someone would re-examine Sir Wilfrid Laurier's famous statement that the twentieth century would belong to Canada. Mr. LeBourdais has done just this, and the result is a geography of Canada with emphasis on the less densely populated areas. It is not a textbook, yet the approach is scholarly as is borne out by the bibliography of some ninety items. The theme of the book is based upon the natural wealth of the Canadian Shield, particularly its minerals such as iron ore, the petroleum and natural gas resources of the Canadian Middle West and "Canada's position in the northern half of North America, rendered strategically important by aviation". Each of the major geographical regions is considered in turn with facts, figures and descriptions to show the altered significance of each of them in the

world of today as compared with the beginning of the century. Unfortunately the book has very few maps and it is impossible to locate many of the places mentioned without the aid of the topographic sheets. Even the end-paper map shows only Canada south of the "High Arctic" and does not show latitude and longitude. However, the full-page black-and-white photographs are well chosen from a variety of sources.

But the book is not merely facts, figures and description. It also contains many provocative ideas related to geographical theory. The statement that "geographic features are fundamental; and everything else being equal, are decisive in determining the destiny of a region" is reminiscent of Professor Griffith Taylor, the only professional geographer to whom significant acknowledgement is made. The significance of the entry of Newfoundland into Confederation in completing the regional unity of "Les pays du Golfe" is timely as is the idea that the "once-considered wasteland barriers in reality tie the country together". But to turn to the chapter entitled "The Heartland" and find that it deals with "most of the Prairie Provinces and that part of the District of Mackenzie lying between the edge of the Canadian Shield and the mountain ranges" may shock the unimaginative. The Yukon Territory and Arctic Canada are dealt with as "The Final Frontier". This chapter shows the strong influence of Vilhjalmur Stefansson on the author as does the conclusion that

"Canada's most northern lands can make a contribution to the common welfare proportionately equal to that of any other region".

While, as might have been expected, the author ultimately finds full support for Laurier's prediction, it is not without a word of warning for the penultimate chapter is devoted to a discussion on the intelligent use of natural resources. Again Mr. LeBourdais follows his arguments right through to a positive end, by advocating a resurrection of the Commission on Conservation which was abolished in 1921.

The faith of this author in the future of Canada is not merely confined to singing praises. It is supported by thoughtfully sifted evidence and as a result it should appeal to everyone interested in our country.

NORMAN L. NICHOLSON

* * *

Red River Runs North

by Vera Kelsey

(Harper and Bros., New York, \$3.75)

Miss Kelsey was formally trained as a sociologist but she has acquired a sense of geographical regionalism, partly through her extensive travels outside North America. However, she deplors such travel if it is at the expense of a knowledge of one's own "histories and

(Continued on page XI)



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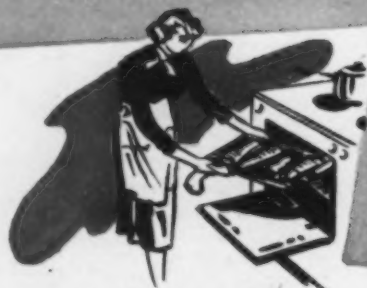
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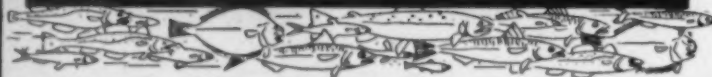
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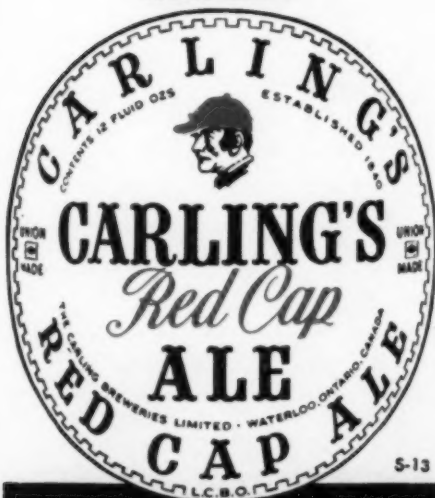
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(Continued from page VIII)

literature" and this philosophy and her "geographic sense" have been amply demonstrated in *Red River Runs North!* This book is an account of the pre-1890 development of the region in which the author was born and grew up. Its very title is intended to draw attention to the basic geographical fact that the Red River is part of the Hudson Bay drainage basin, and its substance demonstrates the political partition of the watershed of the river between the federal governments of Canada and the United States, the provincial government of Manitoba and the state governments of Minnesota and North Dakota.

The presentation of the story follows the pattern of the historical geographer as does the inclusion of eleven maps. Beginning with what is really the physical setting (called "Outside the Door of History"), Miss Kelsey then traces the work of the French explorers, the fur traders and the settlers before dealing with the modern developments due to the Red River cart, the steamboat and the railway. The style is less academic as is indicated by such chapter headings as "Pig's Eye, Converted Thou Shalt Be", "The Emperor of the

North" (meaning Governor Simpson), "Bonanza" and "Mr. Riel and Mr. Smith Rise Again". This, presumably, was in order to make history live and, for similar reasons, the book is "unpeppered with asterisks and tiny numerals referring readers to the back of the book for the source of each quotation". Undoubtedly the scholar will deplore this, but he will nevertheless read the book and gain a good deal from it.

NORMAN L. NICHOLSON

* * *

Physical Geography

by Arthur N. Strahler

(John Wiley and Sons, New York, \$6.00)

The need of a modern textbook of physical geography "taking advantage of newer principles and methods of presentation prompted the writing of this book", which is primarily intended for college students unfamiliar with the natural and physical sciences. The author has used the widest interpretation of the term "physical geography" by recognising that it not only includes



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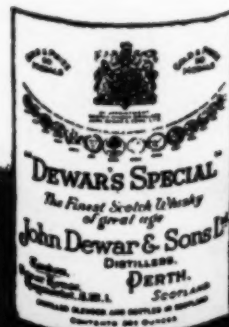
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geomorphology and "a certain minimum knowledge of the principles of geology" but also those principles of geodesy, astronomy, cartography, hydrology, meteorology, climatology, pedology, plant geography and physical oceanography which deal with "the environmental influences that vary from place to place over the earth's surface".

The principles which the author has selected, intentionally conform to the pattern laid down by Salisbury, Tarr, de Martonne and Lobeck but the arrangement of their presentation is new, if not novel. For instance, Part One, which deals with the earth as a globe, begins with the geographic grid and map projections and ends with times and tides, while planimetric and topographic maps, on the other hand, form the first two chapters of the section dealing mainly with landforms, rocks and structures! The third part deals with weather, climate, natural vegetation and soils in the more traditional order, although some of the individual chapters have stimulatingly fresh ideas. For example, Dr. Strahler's treatment of climates is based upon their origin and controlling factors. He explains them according to the dynamics of the atmospheric circulation rather than upon "arbitrarily set definitions of superficial temperature-rainfall characteristics".

Canadians will probably be particularly interested in the chapter on "Climates Controlled by Polar and Arctic Airmasses". The author has chosen to include solifluction and polygonal soils and some comment on

permafrost here rather than in the sections on landforms or soils, but, apart from this, the whole book is logically and carefully organized—a prime essential in the teaching of the physical basis of geography. A further recognition of the frequently complex nature of his material has resulted in the inclusion of over five hundred explanatory illustrations. The photographs are precisely chosen, with emphasis on North American

(Continued on page XIV)

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(Continued from page XII)

sources, and the diagrams admirably clear. Many of them, such as the series of blocks illustrating the development of a middle latitude cyclone, could only be bettered by three dimensional models. No insignificant contribution is the series of exercises which follow each chapter and the eighteen pages of references for further study.

Although the author is primarily concerned with physical processes and forms he does not lose sight of the fact that physical geography is an important part of the foundation for studies of human geography and the two are related whenever possible. Thus the discussion on weathering and mass wasting has been made a prelude to underground water, wells and springs. The chapter on landforms made by streams includes such topics as the significance of entrenched meanders on settlement in Europe and that on landforms made by glaciers includes the economic importance of outwash plains, kames and eskers. Consequently, whether one is looking for an explanation of a tombolo, the use of a coastal plain, a homocinal valley, a podsol or that mysterious analemma on "the globe in the den", Strahler's *Physical Geography* will provide a lucid answer.

NORMAN L. NICHOLSON.

* * *

BOOKS RECEIVED

Quest by Canoe. By Alastair M. Dunnett. 183 pp.; illustrated, sketch maps. Clarke, Irwin & Company, Toronto, 1950. \$2.75.

Adventurous trip by two young men in single-seater canoes from Glasgow to Skye; descriptions of the local scenery, its people and their problems.

New Zealand Weather and Climate. Edited by B. J. Garnier. 154 pp.; maps, graphs, bibliog., index. A Special Publication of the New Zealand Geographical Society, Dunedin, N.Z., 1950. 11s.

A symposium, the whole comprising a statement on New Zealand climatology which has not before been printed in one volume.

Petroleum Geology. By Kenneth K. Landes. 660 pp.; maps, diagrams, bibliog., index. John Wiley & Sons, New York, 1951. \$10.00.

Covers three phases of petroleum geology: (1) exploration and exploitation techniques of the petroleum geologist; (2) geological occurrences of oil and gas deposits; and (3) geographical distribution of oil and gas deposits.

Ireland: Its Physical, Historical, Social and Economic Geography. By T. W. Freeman. 555 pp.; illustrated, maps, diagrams, bibliog., index. Methuen & Co., London, 32s. 6d.; E. P. Dutton & Co., New York, \$6.75. 1950.

The first comprehensive account of the country written by a geographer for geographers. The first part deals with geography of the country as a whole, the second part with the various regions.



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Beyond the Windy Place

by Maud Oakes

(Clarke, Irwin, Toronto, \$4.75)

This most readable account of the author's two years in a village in the remote mountains of Guatemala is, perhaps, of greater interest to the ethnologist than to the geographer. It was not the author's first experience in field work and it is evident that she is better fitted than most for research among people of a comparatively primitive culture.

Her main purpose was the study of the aboriginal Mayan religion which would, she hoped, be found in Todos Santos with only a thin veneer of Christian custom and belief superimposed. Temperamentally she found herself much in sympathy with the natives and was definitely on their side rather than on that of the *Ladinos*, the "Latins" of mixed Spanish and native blood, and she shows her leaning without equivocation. She was able to take part in the Indians' ceremonies with obvious sincerity and devotion, greatly to their delight. Strangely enough, in spite of her training in science, she seems to admit a belief in "astrology", but this in no way lessens her skill in medicine and minor surgery. Once it was discovered that she had a supply of drugs and some knowledge of their use, her whole working day might be taken up with the care of the sick and injured.

She is greatly to be envied her experience, and there is no doubt as to the scientific value of her contribution to the study of primitive religion. It is a pity that we are shown none of the excellent photographs she tells us she took.

DOUGLAS LEECHMAN

* * *

The Catholic Shrines of the Holy Land

by the Very Rev. Paschal Kinsel

and the Rev. Leonard Henry

Photographs by Alfred Wagg

(Clarke, Irwin, Toronto, \$5.75)

It is unfortunate that so excellent a collection of photographs as this should be accompanied by so inadequate a text. For the traveller who intends visiting Palestine it should prove a most interesting book but for the geographer or the historian it is less useful for no clear boundary between history and tradition is perceptible in its pages.

The authors have felt it necessary to change the spelling of many familiar names and we find, for instance, Canaan, Caperhaum, and Amorite rendered as Chanaan, Caparnaum, and Amorrhite. Worse still Joshua, well known to all of us since childhood, becomes Josue. In a book intended for scholars such preciousness might be pardonable though hardly desirable, but to bemuse the lay reader with alterations which produce no change is hardly wise.

The photographs, by Alfred Wagg, are very good indeed with a fine feeling for composition and first-rate human interest. The fact that there are over a hundred and twenty of them, several in colour, and many of them of full-page size, justifies the comparatively high price.

DOUGLAS LEECHMAN